

NATIONAL PARKS RESERVES, MADAGASCAR'S NEW MODEL FOR BIODIVERSITY CONSERVATION

Lessons learned through
Integrated Conservation
and Development Projects (ICDP)



PARKS AND RESERVES OF MADAGASCAR



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National Parks and Reserves, Madagascar's New Model for Biodiversity Conservation Lessons Learned Through Integrated Conservation and Development Projects (ICDPs)

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Summary Worldwide national parks are generally operated by State-run ministries with a national parks service. Problems with direct State management of such resources have become increasingly evident. Such federally run services are not the only models for national parks management as evidenced by a number of semi-autonomous organizations proudly filling this role. The past five years have seen the development of Madagascar's first national parks service which has followed a creative institutional arrangement whereby the State has delegated a not-for-profit association (ANGAP) the management authority of a network of 44 parks and reserves. While much remains to be achieved, this article seeks to capture some of the lessons learned through the integrated conservation and development programs (ICDP) whose coordination led to ANGAP's current mission statement and mandate. Emphasis is given to the need to involve both local communities adjacent to protected areas and the private sector. Policy implications are drawn out. The author has served, since February 1994, as ANGAP's principal technical advisor and has been responsible for supporting and developing ANGAP's institutional evolution towards becoming Madagascar's National Parks Institution.

1.0 Introduction

Madagascar has no national parks service, and five years ago, when the Madagascar and donors National Environmental Fund was early on decided that institution which could protect a network of reserves. The area to be protected was a network of parks and reserves at the apex of the best and most biodiversity. Its economic importance far exceeded its size (less than 2% of Madagascar) relative to the rest of Madagascar's remaining patches of forest and wilderness areas.



never had a federally run national parks service, and does not have one today. Five years ago, when the Madagascar and donors National Environmental Fund was early on decided that institution which could protect a network of reserves. The area to be protected was a network of parks and reserves at the apex of the best and most biodiversity. Its economic importance far exceeded its size (less than 2% of Madagascar) relative to the rest of Madagascar's remaining patches of forest and wilderness areas.

Worldwide, national parks are generally operated by State-run ministries, with a "national parks service." Problems with direct State management of such resources have become increasingly evident.

While referring specifically to developing countries of Latin America and the Caribbean it is generally true worldwide that "lack of financial resources has been one of the principal impediments to promoting sustainable development and environmental protection. National funding has failed to provide the needed financial resources for establishing and maintaining protected areas." (Barzetti 1993 p 159) Problems include disassociation of park revenues from operating costs - with revenue returning to the national treasury, the inability of federal bureaucracies to compete efficiently with the private sector leading to increased costs of operation and sometimes lack of professionalism, and the inability of park management officials to limit tourist access to a predetermined carrying capacity for specific areas visited. The conservation objective in these cases has frequently come second to the commercial and political interests of powerful lobby groups.

The United States Parks Service, the oldest of its kind, created in 1916, is under increasing pressure to sustain the national parks in their natural state and in some cases is 'losing the battle' (Mitchell 1994). The list of ills immediately reminds one of the problems faced by developing nations around the world. To take but one example, Yellowstone, the world's first federally operated national park created in 1872, is in a critical state. One reads of "Yellowstone's dilapidated road system", whose deteriorating sewage system several years ago "contaminated a portion of the celebrated Yellowstone River". Its rangers spend "frigid winters in trailers and uninsulated temporary housing located in an area accessible only by snowmobile" (Forstenzer, 1995, pp 38,43,48). It is currently also threatened by a newly proposed mining concession which could create "an environmental disaster waiting to happen" within Yellowstone. Significant populations of Yellowstone's elk and bison are threatened with extermination because of their threat to peripheral zone cattle (brucellosis).

'The Parks Service is in the midst of a financial crisis and 'it is difficult to exaggerate the vast problems that now affect the parks. Many irreplaceable national treasures - spectacular natural areas and historic and cultural sites sheltering some of the country's most profound symbols - are being threatened or damaged in the absence of funds to protect them adequately" (Forstenzer, 1995, p 38).

The U.S. Parks Service is beginning to seriously consider changing some of its basic approaches to park management - including visitor fees remaining with park's programs and limiting tourist access (Ibid, p 57), but great build-in resistance exists. The Parks Service, because of long term concessions granted to private sector operators, today observes large profits being made at the expense of the parks themselves. These concession interests have become powerful lobby groups pushing their commercial interests at the expense of protection of natural resources owned by the American public. "And many concessionaires making only minuscule payments to the federal government take in enormous gross revenues" (Forstenzer

1995, p 48)

Because many of the problems of "federally run national parks services" arise from structural/institutional roots they are very difficult to change. As observed by USAID Madagascar in 1991

"Madagascar lacks a coherent institutional structure for managing its environment and the institutions that do exist are largely incapable of carrying out their mandates. Responsibility for the environment is fragmented among several ministries which all suffer from inadequate funding, insufficient numbers and poorly trained staff at all levels, lack of information, a history of agricultural policies which have worked as disincentives to conservation, and weak capacity for policy analysis and planning. This is particularly the case for the Department of Water and Forests (DEF). (TR&D USAID Contract Document 1991 8)

Many park services of U S A states such as the Arkansas State Parks Service have been able to avoid some of the more serious errors of the federal system and are being managed in a more efficient manner. ANGAP, and Madagascar in general, has been in the enviable position of just starting off with a new system, and the potential to learn from the errors of others. Park consultants coming from the U S A, Canada, and elsewhere over recent years have strongly urged ANGAP to avoid some of the practices which are still considered "normal" by some in the U S A and other National Parks programs of other countries.

A federally run "national parks service" is not the only institutional model¹ a newly forming national parks institution like ANGAP might follow. This is evident in a growing number of semi-autonomous organizations proudly filling this role. Perhaps the best and oldest example of this is the South African National Parks Board. The Karisoke Research Center in Rwanda was, before the recent civil war, considered "one of the brightest conservation stars in Africa", it had become "an autonomous, scientific mini-state within the Rwandan borders" (Salopek, 1995, p 80). In the Bahamas, a National Trust has statutory authority for parks. National parks are managed by an NGO, the Conservation and Development Trust, in Jamaica². The Philippines reportedly are initiating a pilot action of this kind as well.

"The diverse array of institutions that are beginning to assume management responsibilities (of parks) include regional and local governments, universities, private land owners, rural communities, NGOs, private businesses and cooperatives" (Barzetti 1993 p 85).

The South African National Parks Board, with its network of national parks, was created by an act of Parliament in 1976. Parliament sanctions the appointment of the board of directors through the designated Minister (currently Minister of Environmental Affairs and of Tourism). The minister has an oversight, non-executive, relationship to the Board. The recently reconstituted Board appoints the chief executive, who is directly responsible to the board, for the control, management, and maintenance of national parks. Key concept: the Board retains full and effective control of the organization, but the management of the organization passes through the Chief Executive and his directors (National Parks Act and annexes, 1976). The National Parks Board network is reportedly about 80% self-sufficient, receiving 20% of its budget from the State, with Kruger National Park serving as the flagship of the system. The South African State's subsidy is not enough for "the board to carry out its nature conservation activities", the balance is generated

through "tourism-related businesses" (Havenga 1994 p 16) While holding "conservation" as its most important mandate, near self-sufficiency is a close second Total self-sufficiency though potentially attainable (Botha, personal communication³) is not considered desirable Parks Board employees do not consider themselves State employees Its board of directors by law, can not be filled by any serving government official (Dr G A Robinson, personal communication, November 1994)⁴ The Parks Board considers it a matter of principal that the State should contribute at least a portion of the management costs incurred for the conservation of these protected areas on behalf of the public trust

Madagascar's National Association for the Management of Protected Areas (ANGAP) has been moving towards some form of the South African Parks Board model with its current legal status as a not-for-profit private association managing national parks and reserves on behalf of the people of Madagascar, by delegation of the State Yet major differences will become apparent in ANGAP's approach to the private sector and local communities in the peripheral zones of parks

Until 1990, all forest lands in Madagascar were managed by the Department of Water and Fisheries (DEF), under the Minister of State for Agriculture and Rural Development Madagascar adopted in 1968 the various IUCN categories for protected areas However, Malagasy officials have always seen protected areas as places to "protect", places to "keep people out of", to "conserve" Madagascar laws are more restrictive than IUCN worldwide guidelines require - in spite of the fact that Madagascar lacks the economic ability to protect or conserve these Such laws, once in place, are difficult to change, even though often dysfunctional The creation of ANGAP by the Government showed increasing national resolve to protect parks and reserves in a more sustainable manner

During 1988-1989 the government of Madagascar, with international donor support, prepared a National Environmental Action Plan (NEAP) of three phases of 5 years each (Larson, 1994) The first Environmental Program phase (EP-1), started in 1990 Key elements for the strategy included delegating to those responsible for managing the protected areas the responsibility needed for such management, and giving them the means do so An early step taken by donors in 1989, in preparing EP-1, was to have consultants of Louis Berger International, with a Malagasy firm (SERDI), study the most appropriate legal statute for the new organization to be created which would manage Madagascar's biodiversity represented in the national parks and reserves Cited reasons for the need to create such an organization included the need for "the development of activities linked to tourists visiting parks and reserves (food services lodging, guides, various products" (Louis Berger 1989, p 1) This center" would need to have "great autonomy (from the government) for management (Ibid 1) And again

If tourism is to develop into something important in a brief period of time and if one is to suppose that much of

this tourism will be orientated towards nature tourism then it is necessary to foresee the need for specific new regulations for those sites where tourism has a potential so as to assure a maximum of protection without hindering operators and their clients (Ibid p 6)

The Louis Berger study outlined 4 major "missions" which such an organization should undertake⁵, and concluded, after evaluating the various kinds of legal entities (government department, office, various for-profit, private nonprofit organizations associations Ibid p 24) that the status of "association" was the most appropriate for accomplishing the tasks proposed for sustainably managing protected areas. While many of the direct recommendations of this 1989 study were not acted upon at the time, the resulting organization that was to be created "ANGAP" was an association. Interestingly enough each of the major mission statements of the Louis Berger study become part of ANGAP's mission statement in 1995.

The USAID financed SAVEM project had two basic strategies, or approaches. In order to 'establish sustainable institutions', support was given to *the National Association for the Management of Protected Areas (ANGAP) created to coordinate and manage protected areas and the peripheral zones*⁶. For the first strategy, the Tropical Research and Development, Inc (TR&D) was awarded the USAID SAVEM contract to provide the institutional support to ANGAP. The second strategy *will test the hypothesis that the local population will alter their behavior from destruction to conservation of their environment if they see a relationship between their economic and social well-being to the conserved area and if they are empowered to make the right decision*⁷. To achieve this, SAVEM would "award up to six Protected Area Development Grants (PADG) to local and international NGOs for more limited locally initiated interventions in the peripheral zones adjacent to any of Madagascar's protected areas"(Ibid 2). The PACT/GMU was given the USAID SAVEM contract to administer the grants to the six SAVEM ICDP's, eventually awarded to 5 American based international NGOs (CARE, CI, WWF, VITA) and one American university (Stony Brook), with a seventh, Isalo, awarded directly to ANGAP in 1996. Eight other ICDPs received funding from other donors (German KFW, Dutch, Norwegians, UNESCO, WWF, and others). ICDPs were intended to be 'coordinated and (eventually) managed' by ANGAP as it was recognized that "*the ad hoc designation of various international NGOs to manage protected areas could not continue indefinitely*", and *DEF proposed the creation of a flexible agency capable of coordinating NGOs ensuring the integration of conservation and development and eventually replacing foreign operators*".

ANGAP was the primary national institution being built within the USAID SAVEM project during EP-1. As the institution directly mandated to "coordinate" Madagascar ICDPs and protected area programs it also became the logical home for a program-wide monitoring and information system. Throughout EP-1 TR&D has been the primary contractor responsible for ANGAP's institutional

development, with most current ANGAP central staff paid for and trained, and equipped, at one stage or another, through USAID funds channeled through TR&D. The collaboration between TR&D and ANGAP was a very close one indeed to extent that many outside of ANGAP were not even aware of the TR&D connection.

In its first years, ANGAP was given "coordination" responsibility for a system of 39 designated national parks, strict natural reserves, special reserves - without any direct field management or direct control of the operating funds with which "operators" were to manage these protected areas⁸ (cf. Table 1 below). Also included was one World Heritage site (*Tsingi* of Bemaraha). These 39 protected areas represented only a fraction of the total forest resources of the country found under the direct management of the Department of Water & Forests (DEF). Up to this point, no planner (government or foreign) had addressed the need for an actual national parks system. It was assumed that international NGO "operators" would be able to manage the protected areas, under some kind of "coordination role" from ANGAP.

As part of Madagascar's national policy for the gradual disengagement of the State and giving greater responsibility to the private sector, ANGAP received the statute of an "association" (Ordonnance #60-133, 1960), a statutory body delegated by the State to manage parks and reserves "in the public interest", and for putting into place the State's policy for the management of biodiversity and into operation a strategy for the conservation and development of protected areas. ANGAP can generate revenue for its operational expenses, but cannot distribute profits to its individual members. The highest authority of this association is the National Assembly, followed by its Administrative Council or Board, and then the Director General of ANGAP. The founding member organizations, who send a representative to sit on the present Board, represent a balance between the public and private sectors. These include representatives from seven government ministries concerned with environmental issues, and six representatives from national and international NGOs.⁹

According to Article 2 of its statutes, ANGAP enjoys "administrative and financial autonomy" from the State. ANGAP, under the Environmental Program legislation and through delegation by the Malagasy State, has as its mission the coordination and execution of the government's policies concerning the "protected areas". For Phase I (1991-1996), the strategy initially was for ANGAP to delegate implementation responsibility of Integrated Conservation and Development Project (ICDP) field programs to various NGO operators (WWF, CI, CARE, VITA, etc.). This led, for example, to the World Wide Fund being named as "principal operator" for the Amber Mountain complex, supported by the development operator CARE International.

Major themes developed for ICDP protected area programs stressed the need for conservation and development to be linked through ICDP projects for peripheral zone populations to be closely implicated in the process of protecting these national treasures. Without their economic interests linked to the preservation of these protected areas, it is difficult to foresee sustainable conservation taking place. This was to be "development for conservation". The USAID funded SAVEM project was specifically seen as an experiment to learn how best to develop the ICDP concept in Madagascar, including hypothesis testing of development-conservation linkages, thus justifying some of the costs involved.

2.0 ANGAP Institutional Development Milestones

At the eve of the next 5 year phase of the Environmental Program (EP-2, 1997-2001), it is useful to consider the dramatic evolution of ANGAP into what is today being considered by many an emerging center of excellence and innovation for the environmental program overall. Some of the milestones leading to this development might be noted.

2.1 Major Donor and Government of Madagascar Support

A major GOM reform led to the creation of ANGAP on June 18, 1990. The "G" (*gestion*)¹⁰ in the name ANGAP already suggests that its creators anticipated a management role for the new institution - not simply "coordination". The principal purpose of ANGAP, as cited in Madagascar's signed agreement with the World Bank May 1, 1990 (Credit # 2125) MAG), was to "execute parts A1, A2, A4, and A6 of the Environmental Program." (1990, p. 6). Article A1 of this agreement states that ANGAP is

to establish and equip a network of about 50 protected areas including the construction and renovation of small infrastructure, coordination of the development activities in the peripheral zones and training including training outside the country for ANGAP personnel (IBID, p. 14). "ANGAP is charged to coordinate the implementation of articles A1, A2, A4, and A6 of the project" (Ibid, p. 20). ANGAP will choose national or international operators with whom it will sign contracts to establish detailed conservation plans and infrastructure development within protected areas and to implement these' (Ibid, p. 21).

2.2 ANGAP receives Authority over Investments, Income, Operating Costs, Parks Infrastructure

December 4, 1991, an inter-ministerial decree (#91 593) was announced in which a number of key provisions were given to ANGAP by the State. The last paragraph of Article 1 states,

the rights (park entrance fees) to visit the Integrated Natural Reserves, the National Parks, the Special Reserves, and the World Heritage Site, and the royalties generated from the management (*gestion*) of the protected areas will be held and managed (*gestion*) by ANGAP.

This is the first time that any Madagascar government decree has specifically stated ANGAP's duties in terms of "management of protected areas", as opposed to "coordination"

Article 6 states that "ANGAP manages (*gestion*) directly its own investments and operational costs and assures the monitoring of the direct allocations of donor funding to field operators " Article 7 describes four areas of financial resources to support ANGAP's program (1) contributions of the State, (2) contributions of donors (3) protected area entrance fees and royalties generated by the management of the protected areas, and (4) various other diverse receipts resulting from other ANGAP activities (membership fees, interest of banked deposits, etc) Article 12 states that "all infrastructure and buildings existing within the protected areas will be progressively, and in any case before the end of the PE-1 (ie 1996), managed (*gestion*) by ANGAP Such infrastructure can be given by ANGAP for use by field operators within the context of established procedures of control"

The issue of ownership of tourist infrastructure was much debated during 1995 between ANGAP and its donors (USAID & World Bank in particular) Professional consultants recommended that such infrastructure should not be managed by a government ministry parastatals are essentially no different "All too often governments feel compelled to provide for lodging and occasionally restaurants With the possible exception of facilities within parks, most government-owned and operated facilities are money losers providing second rate service, and should be avoided" (Rutherford, 1995, p 58) In terms of tourist infrastructure, ANGAP was considered by USAID and World Bank as "more government" than private, therefore subject to the observations above

ANGAP is in the process of obtaining and controlling "service zones" in or near parks in which special areas may be designated as construction sites for tourist infrastructure (eg lodges) built and managed by the private sector under strict concession agreements Greater profits could be realized by ANGAP should a donor chose to give funds to construct such infrastructure, but conditions would have to state that it would be managed by the private sector (Davies, 1996)

The conservation objective of Madagascar national parks and reserves will ultimately not be attained unless a significant share of operating costs can be secured through sustainable sources of financial support By improving the quality and quantity of the experience park visitors will have, ANGAP will be able to significantly increase its resources through entrance fees concession fees, providing in-park services and paying circuits A trust fund with off-shore investment possibilities is also being explored

2.3 Various Protected Areas Transferred to ANGAP Management

By April 1992, all national parks, integrated natural reserves and special reserves had been transferred for ANGAP's total coordination (total of 39). In 1996 this number has reached 44 protected areas with six under direct management control (cf. Map 1 & Table 1).

2.4 Clarification of Roles Between ANGAP and DEF

November 3, 1992, the Ministry of State for Agriculture and Rural Development formally delegated to ANGAP the authority for the "coordination" of national parks, special reserves, and integrated special reserves. These parks and reserves were previously under the direct management control of the Ministry's Department of Water and Forests (DEF). The DEF would continue to manage forest protected resources other than the parks and reserves. It would continue to be responsible for the creation of new protected areas, but would do so with the direct assistance of ANGAP.

A problem remained in that only the DEF has sanction authority for infractions within the protected areas. Field experience has shown that without enforcement power, it is almost impossible to manage these protected areas - and existing DEF enforcement does not work very well. In November, 1996, as part of the GOM and donor agreements in Paris for EP-2, ANGAP will be permitted to become involved in some levels of direct enforcement - yet to be determined. Furthermore, ANGAP will no longer be "under" the DEF or its Ministry in any way. Oversight of ANGAP has been transferred to the Ministry of the Environment. Such oversight does not extend to any involvement in executive functions or implementation.

2.5 System-wide Monitoring and Evaluation System Established

By early 1994, a system-wide socio-economic and ecological monitoring system had been established, with input of field operators, to assess program development and impact over the coming years (Swanson 1994).

The experience with these conservation and development projects including systematic data gathering, monitoring and evaluation, will determine the success of (Madagascar's) National Environmental Action Plan (NEAP) activities in improving knowledge of the underlying causes of key environmental problems" (Larson 1994:684).

Indicators of different kinds have been developed to assess institutional progress/processes at both central and field levels. Base line spatial data sets and procedures were recommended for program planning and management purposes. A system for assessing impact of priority ICDP activities on program objectives among a sample of households was implemented. These socio-economic impact studies have been the slowest to be implemented in the program. Implementing the system-wide monitoring program has been complicated and slowed down by the fact that ANGAP has had no direct leverage over field NGO operator grantees in putting this system into place. While many of the institutional process indicators have begun to

TABLE 1 (HA) OF PROTECTED AREAS

N	PROTECTED AREAS & EP 2 Classification1	PROVINCE	YEAR CREATED	AREA (Ha) 1989 Baseline Source2	December 1996 AREA (Ha)3	SOURCE (Jan 96)	ICDP During EP 12	PRINCIPAL OPERATOR	ANGAP Partners4	MAIN DONOR
0	ANGAP Central (Parks network below)	Antananarivo	1991						Tropical Research & Development Inc	USAID
	NATIONAL PARKS									
1	Montagne d'Ambre (PN1) A 1	Antsiranana	1958	18 200	22 740	SIG / ANGAP	yes	WWF		USAID / WB
2	Isalo (PN2) A 11	Fianarantsoa	1962	81 540	86 880	SIG / ANGAP	yes	ANGAP		USAID / WB
3	Mananara Nord / Nosy Antifana B1 3	Toamasina	1989	23 000	20 649	SIG / COFFOR	no	UNESCO		Dutch Gov
4	Mantadia A 6	Toamasina	1989	10 000	12 950	SIG / ANGAP	yes	VITA	SAF/FJKM/TFMT	USAID
5	Ranomafana A-4	Fianarantsoa	1989	41 610	40 613	SIG / ANGAP	yes	Stony Brook	Tefy Saina Cornel	USAID
6	Masoala A 3	Toamasina	1997 5		(210 260)	SIG / ANGAP	yes	CARE	WCS/TPT	USAID
7	Zombitse/Vohibasia B1 4	Toihara	1997 5		(41 964)	SIG / ANGAP	yes	WWF	Peace Corps	Norway
8	Baie de Balv C 7	Mahajanga	1997 5		(69 350)	SIG / ANGAP	no			
9	Midongy du Sud B2 10	Fianarantsoa	1997		(197 900)	SIG / ANGAP	no			
10	Kirindy Mitea C 9	Toihara	1997		(72 700)	SIG / ANGAP	no			
	TOTAL			174 350	183 832					
	STRICT NATURAL RESERVES									
1	Isingy du Betsibou (RNI 9) 6 A 9	Mahajanga	1927 (Dc 1966)	152 000	172 100	SIG / COEFOR	yes	UNESCO	Bemara VSF	FAC/WB
2	Andohahelo (RNI 11) * A 7	Toihara	1927 (Dc 1966)	76 020	74 828	SIG / ANGAP	yes	WWF	FAFAFI PCVs	USAID
3	Zahamena (RNI 3) * B1 7	Toamasina	1927 (Dc 1966)	73 160	64 510	SIG / ANGAP	yes	CI		USAID
4	Ankarafantsika (RNI 7) * A 8	Mahajanga	1927 (Dc 1966)	60 520	57 750	SIG / COEFOR	yes	CI		KFW/WB
5	Marojejy (RNI 12) B1 6	Antsiranana	1952 (Dc 1966)	60 150	61 970	SIG / COEFOR	yes	WWF		KFW
6	Tsaratanana (RNI 4) B2 2	Antsiranana	1927 (Dc 1966)	48 622	52 130	SIG / COEFOR	no	ORGASYS	GFA	WB
7	Tsimanampetsotsa (RNI 10) B2 4	Toihara	1927 (Dc 1966)	43 200	45 960	SIG / COEFOR	no			
8	Andringitra (RNI 5) * B1 5	Fianarantsoa	1927 (Dc 1966)	31 160	32 540	SIG / COEFOR	e	WWF		KFW

1 ANGAP has divided all protected areas into three classes for management purposes. Category A, B, and C parks or reserves. Category B1 parks are currently being managed by ANGAP. Category B-2 by others. Category parks or reserves are those with significant human pressures upon them, needing strong protection measures as well as high ecotourism potential. They are top priority for development in this sense for ANGAP. Category B reserves are under significant pressure from human populations and therefore need strong conservation measures. Category C reserves are neither under significant human pressures on biodiversity nor do they have ecotourism potential to date (access). Both category A and B parks have been priorities for ICDP programs, and strong partnerships with development orientated institutions will continue with ANGAP during EP-2.

2 Madagascar Revue de la Conservation et des Aires Protegees, Nicoll et Langrande 1989 8-9. Nicole and Langrande actually published this year that there were 1,045,865 ha protected but this did not take into account three new protected areas created that year: Mananara-nord, Mantadia, and Ranomafana. Adding these three we get the figure 1 120 472. ANGAP uses these official figures in most of its publications.

3 December, 1996 areas are taken from georeferenced data (SIG / DEF / COEFOR and SIG / ANGAP). They are not the official data indicated in legal texts and used as 1989 baseline. These georeferenced ANGAP DIVB GIS data are permanently updated as new data become available or new changes take place (re-delimitation, additions, etc.). These figures are considered more accurate than the existing official data.

4 Acronyms: PCV = Peace Corps Volunteers, BTM = Bureau de Travail International, FID = Fonds d'Intervention de Developpement, FAFAFI = local NGO for development, WWF = World Wide Fund, WCS = World Conservation Society, CI = Conservation International, WB = World Bank, KFW = German version of USAID, FAC = Fonds d'Aide et de Cooperation (France), GFA = Gesellschaft Fur Agrarprojekt (German project), SAF = local NGO in development, SAFAFI = Department for Development Agriculture & Livestock, DEF = Department des Forêts et Forêt, SIG = Geographic Information Systems, EP-2 = Environmental Program 2 (1997-2002), VSF = Veterinaires Sans Frontieres, FJKM = Protestant local development NGO.

5 Five new national parks are before the DEF and the National Parliament waiting for official decrees opening them. For this reason the areas of these parks are not yet included in official parks areas.

6 These strict natural reserves are in process of being reclassified into national parks. The texts for this change are before the national parliament. Other reserves are also in process of being declassified into national parks.

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9	Tsingy de Namoroka (RNI 8)	B2 3	Mahajanga	1927 (Dc 1966)	21 742	28 460	SIG / COEFOR	no			
10	Betampona (RNI 1)	B1 10	Toamasina	1927 (Dc 1966)	2 228	2 925	SIG / COEFOR	no	ANGAP	SAF	Brit Church
11	Lokobe (RNI 6) +Nosy Tanikeiv *	A 10	Antsiranana	1927 (Dc 1966)	740	1 590	SIG / COEFOR	no	ANGAP	Peace Corps	WB
	TOTAL				569 542	670 188					
	SPECIAL RESERVES										
1	Ambatovaky	C 6	Toamasina	1958	60 050	58 020	SIG / COEFOR	no			
2	Marotandrano	B2 8	Mahajanga	1956	42 200	45 930	SIG / COEFOR	no			
3	Manongarivo	B2 2	Antsiranana	1956	35 250	37 580	SIG / COEFOR	no	ORGASYS	GFA	WB
4	Analamera	B2 1	Antsiranana	1956	34 700	42 190	SIG / ANGAP	yes	WWF		USAID
5	Anjanaharibe Sud	B1 6	Antsiranana	1958	32 100	31 980	SIG / COEFOR	yes	WWF		KFW
6	Kalambatritra	B2 7	Fianarantsoa	1959	28 250	31 320	SIG / COEFOR	no			
7	Ambohijanahary	C 8	Mahajanga	1958	24 750	20 770	SIG / COEFOR	no			
8	Kasiy	C 2	Mahajanga	1956	18 800	23 050	SIG / COEFOR	no			
9	Ankarana	A 2	Antsiranana	1956	18 220	25 430	SIG / ANGAP	yes	WWF		USAID
10	Tampoketsa d Analamaitso	C 1	Mahajanga	1958	17 150	22 660	SIG / COEFOR	no			
11	Mangerivola	C 5	Toamasina	1958	11 900	12 010	SIG / COEFOR	no			USAID
12	Bemarivo	C 4	Mahajanga	1956	11 570	12 080	SIG / COEFOR	no			
13	Maningoza	C 3	Antsiranana	1956	7 900	5 991	SIG / COEFOR	no			
14	Andranomena	B1 9	Toliara	1958	6 420	78 48	SIG / COEFOR	no	ANGAP	Peace Corps	WB
15	Ambohitantly	B2 6	Antananarivo	1982	5 600	4 967	SIG / ANGAP	no	SOFRECO		WB
16	Manombo	B1 1	Fianarantsoa	1961	5 020	5 281	SIG / ANGAP	no	ANGAP		WB
17	Foret d Ambre	A 1	Antsiranana	1958	4 810	4 814	SIG / ANGAP	yes	WWF		USAID
18	Bora	B2 9	Mahajanga	1966	4 780	4 070	SIG / COEFOR	no			
19	Pic d Ivohibe	B1 5	Fianarantsoa	1954	3 450	4 044	SIG / COEFOR	yes	WWF		KFW
20	Cap Sainte Marie	B1 8	Toliara	1962	1 750	2 918	SIG / COEFOR	no	ANGAP		ANGAP/DF AP
21	Andasibe (Analamazotra)	A 5	Toamasina	1970	810	525	SIG / COEFOR	yes	VITA	Peace Corps/SAF	USAID
22	Beza Mahafaly	B1 2	Toliara	1986	580	455	SIG / COEFOR	no	WWF	ESSA	WWF/USA
23	Nosy Mangabe	A 3	Toamasina	1965	520	615	SIG / ANGAP	yes	CARE	WCS	USAID
	TOTAL				376 580	404 548					
44	GRAND TOTAL				1 120 472	1 181 553		yes = 19			

be reported it was not until the end of 1995 that spatial data sets and household level surveys were in place for impact study baselines. Achievement of this has required operators to assign specific field staff to directly interact with the relevant ANGAP DIVB technical support division.

By the end of 1994 ANGAP's DIVB information department had begun to play an increasingly active role in environmental information management - establishing an open, participatory approach with all interested partners. By 1996 this information system with its spatial data sets, had become the best and most accessible information system on biodiversity and the environment in Madagascar. It has helped to provide the information needed for prioritization of future applied biodiversity research (eg Map 2 Priority Zones for Conservation Activities and Research) and is playing a key role in assisting national and international institutions in data analysis for the next phase of the environmental action plan. This ANGAP department has also assisting field ICDP programs put into place, through training and technical guidance, the spatial data sets needed for the spatial impact monitoring of the M&E system. Spatial monitoring base line data now exist for protected areas, their peripheral zones, and for three or four target zones (eg Map 3 Ranomafana National Park). These data are in place for the six principal parks, with activities in progress to expand this to the entire network of parks and reserves. Results of this monitoring has already shown the dramatic loss in biodiversity over the past decades - particularly in the peripheral zones of protected areas (cf Map 4 Vegetative Cover Evolution, Target Zone Vohibazaha). Low-cost videographic aerial photography is being used to update impact studies on targeted zones both within parks and reserves and their peripheral zones.

This monitoring information system, the increasingly significant data bases linked to it, and the trained central and (future) field level staff could be one the most important contributions ANGAP will provide to regional partners of the EP-2 regional program approach over the next five years. A word of caution however. Possessing a detailed and impressive information system has nothing to do with the wisdom, ability, and common sense needed to use or apply it for constructive purposes. Common sense is not at all common and the ability to wisely discern what is important and what is not, is rare.

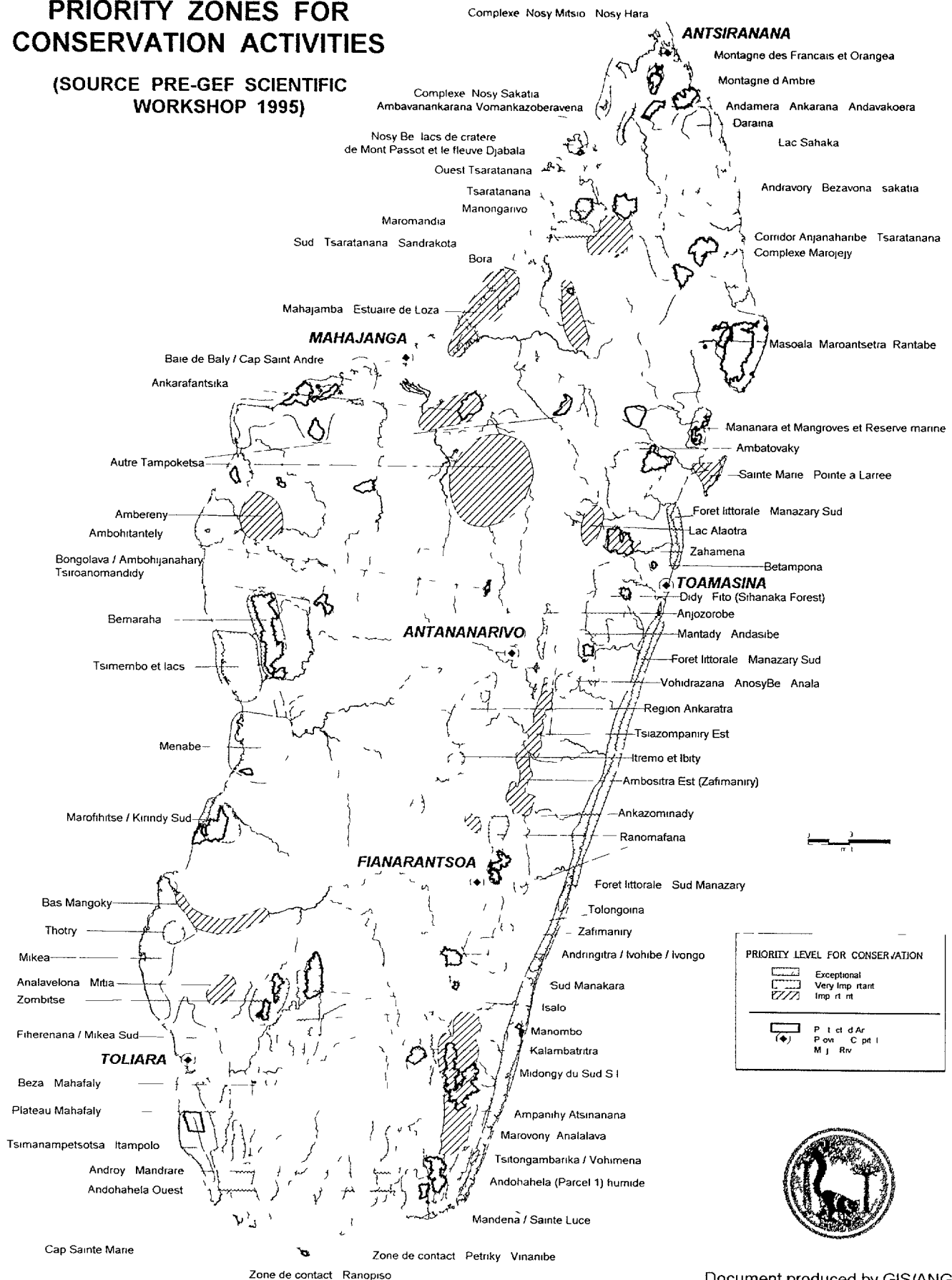
2.6 Long Term Vision Documented

A series of workshops and internal strategic meetings led in October 1994 to a "Long Term Vision for the Protected Areas Program" (Hagen, 1994), in which ANGAP's evolution towards a national park program was outlined. The October 1994 Madagascar Environmental Action Program Steering Committee annual meeting made the recommendation to clarify ANGAP's role in terms of management of protected areas. They recommended

the reinforcement of ANGAP's mandate towards being made totally responsible for the management of protected areas in such a way as to permit it to apply either indirectly through an operator or directly (itself) a (park) management plan and the management of each protected area (COS Report No 1 October 1994 p 10). Related to this was the recommendation for the progressive transfer of operational management of development activities in the peripheral zones by international NGOs towards national NGOs' (Ibid p 10).

PRIORITY ZONES FOR CONSERVATION ACTIVITIES

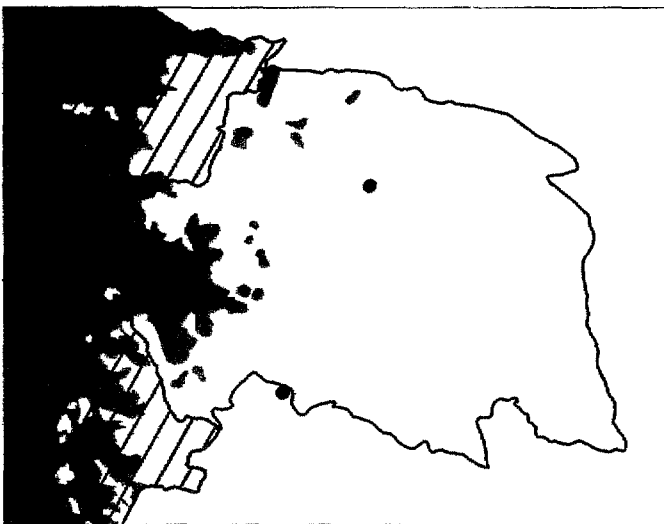
(SOURCE PRE-GEF SCIENTIFIC
WORKSHOP 1995)



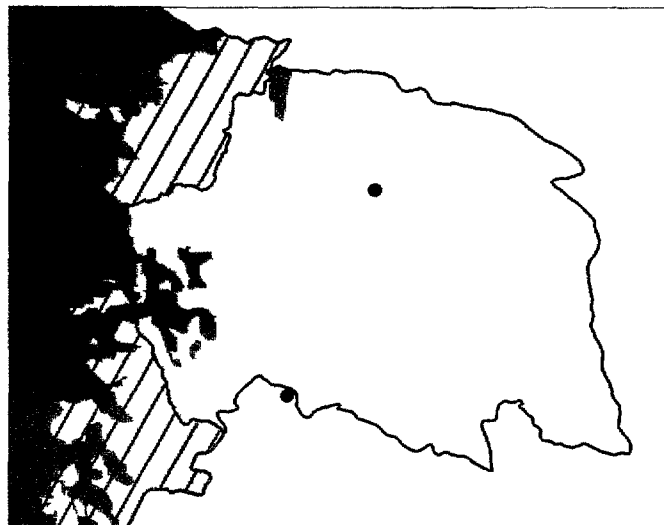
VEGETATIVE COVER EVOLUTION TARGET ZONE VOHIBAZAHA



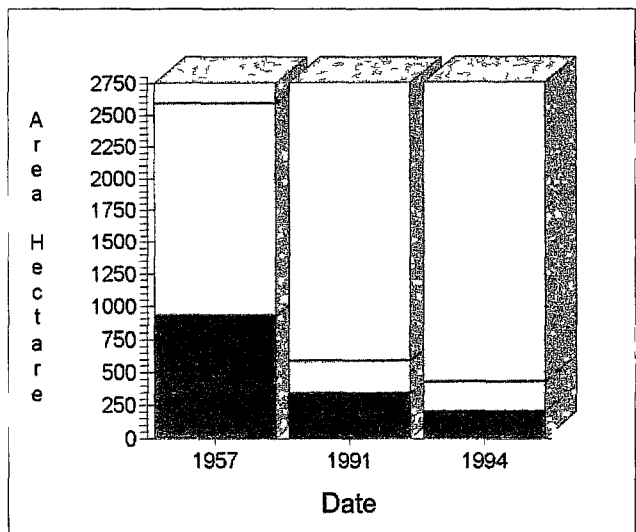
1957



1991



1994



LEGEND

- Primary Forest
- Secondary Forest
- All Others
- Target Zone 2761 Ha
- Protected Area
- Village
- Trail
- Roads suitable for vehicles
- Railways
- Logging road
- Path
- Hydrography
- National road

AREA (Hectare)

A	B	C	D
1957	921 28	1666	171
1991	336 43	249	2176
1994	200	228	2339



SIG/PNAM



ANGAP/DIVB



DEF



2.7 System and Parks Level Technical Assistance Begins

ANGAP began to receive its first professional parks service staff support in November and December 1994, and again in February and March 1995 through TR&D (Antoine Cloutier of Quebec Parks Canada, Jay Miller of State Parks Service of Arkansas, James McGregor, ecotourism of Canada, and Dr. G. A. Robinson, Executive Director, National Parks Board of South Africa). Initially they helped to evaluate ANGAP and the protected areas' accomplishments towards development of park management plans in at least the priority parks (Andasibe, Isalo, Amber Mountain/Ankarana, Ranomafana). Steps were outlined that would be needed to be followed for ANGAP to move towards assuming a role as Madagascar's national parks service. ANGAP's institutional structure was reviewed and a new organization proposed. These consultants worked closely with each of the priority park operators in this effort. Mr. Grenfel of Ranomafana National Park, with team assistance, led in providing ANGAP with an illustrative table of contents of what a park management plan should include. Completed during 1995, the Ranomafana National Park Management Plan has become a key reference document for establishment of national park and reserve management plans throughout the system. Long term parks technical assistance began with the arrival in January 1996 of Mr. Roger Collinson, with long experience in parks programs in South Africa.

2.8 ANGAP Begins Direct Management of Three Protected Areas (January 1995)

With World Bank funding initially, ANGAP began in 1995 to directly manage three protected areas. Two of these are small (Lokobe, Manombo), one large (Isalo National Park). In early 1996, Isalo became the 7th protected area supported by the USAID funded SAVEM project, through receipt of a grant of about \$250,000. This was supplemented by another \$400,000 from the World Bank. In this case, ANGAP is the principal operator, supported by interested partners (South Africa National Parks Board, Landel Mills, Peace Corps, ANAE). An ANGAP feasibility study, based on planned activities and revenue generation, suggests that Isalo National Park could be financially sustainable by 1998. If realized, Isalo would be the first protected area to begin generating revenue for the rest of the park network. This is the formula desired by ANGAP for next phase donor funding, so experience gained here will be critical.

2.9 South Africa's National Parks Board: ANGAP's first Sister Parks System

At the invitation of the South Africa National Parks Board, the ANGAP Director General and ANGAP's TR&D principal technical advisor, in April 1995, visited seven South African national parks, discussing ways to collaborate and gain from the professionalism developed in South Africa in the area of "parks management". The quality of services provided by the South African National Parks Board, and the

professionalism evident among employees met in the various national parks visited was solid confirmation of the Park Board's standards of excellence and dedication to the conservation objective described in their own mission statement. Here sustainability has been a watchword for many years: conservation must help "pay for itself".

ANGAP's Board of Directors agreed, in April 1995, to formally pursue a sister national parks system relationship with South Africa's National Parks Board, whereby both institutions identified areas of benefits to their respective programs. ANGAP believes itself privileged to have established this sister parks-system relationship with a neighbor so willing to be of help. We believe South Africa will become an important partner in the years to come given its geographic location and the growing interest of South African tourists in this country.

The South African Parks Board and ANGAP in 1995 and 1996 were very active in putting substance to the new "sister parks system" relationship, as evidenced through the initiation of an intensive support program from the Parks Board to ANGAP and its parks and reserves. During this time technical support was received from Dr. G. A. Robinson, Executive Director of the South African National Parks Board, Dr. Anthony Hall-Martin, director of research and development, Mr. Herman Botha, director of administration, and Mr. Klasie Havenga, director of finance. Seven ANGAP Tana staff and ten field park managers have also received training of between 2-12 weeks in various park programs in South Africa during this time.

2.10 Park Entrance Fees

ANGAP has over the past couple years hesitated to act to modify park entrance fees in place at the time it took over management of the parks and reserves. It was not certain of its prerogatives in this area. This became a real issue during 1994 when the Malagasy franc lost more than half its value against foreign currencies - reducing drastically the revenue collected by tourist visitors, fees for filming in the parks, and research fees. A legal study completed in July by Orgasys confirmed that ANGAP not only has always had the privilege but also the duty to manage fees structures. This is part of their delegated duties of managing the parks and reserves.

ANGAP has both the right and duty to fix variable entrance fees with consideration of the real value of each protected area in order to acquire the funding needed to assist in the financial sustainability of protecting these natural resources. ANGAP must also occupy itself with realizing the financial benefits from filming and research fees. (Orgasys 1995 p. 22-23)

In spite of this legal advice when a new fee structure was placed before ANGAP's board its chairman (Director of DEF from which ANGAP was delegated its authority over parks) declared that no one but the DEF could revise fees. And so the situation remains. This has brought into relief an area needing greater attention: clear power delegation to ANGAP of a number of essential management tools.

Setting of park entrance fees is also seen as a management tool to restrict access to fragile ecosystems by either raising the cost of entrance or establishing a reservation system. Determining the carrying capacity of different sites within parks and reserves is a first step in moving towards such a management system.

On May 8, 1996, a government decree (#96-366) finally came out which in non-ambiguous terms gave ANGAP the right to both manage and set park entrance fees as it sees fit. The key article #1 reads:

Entrance fees for visiting strict natural reserves, the national parks, the special reserves, and the world heritage protected areas, and the royalties generated by the management of these protected areas will be fixed, collected, and managed by the National Association for the Management of Protected Areas (ANGAP)."

Following ANGAP's Board meeting on August 12, 1996, the Board, through its President, also the Minister of the Environment, officially communicated modified park entrance fees for the protected area program effective September 1, 1997, permitting private sector partners to prepare for this change in their marketing strategies (ANGAP Decision #038, October 14, 1995). New fees for researchers, royalties, and professional filming become effective January 1, 1997. Major changes are summarized below:

Adults	Since 1989	New
• Expatriate non resident ¹¹	20 000	50 000
• Expatriate resident	15 000	35 000
• Malagasy	1 000	2 500
• Expatriate researchers	50 000	125 000
• Other researchers	50 000	125 000
• Non-ANGAP guides	-	2 500
• Professional Filming per site ¹²	-	500 000
• Right to Film (Professional)	-	negotiate

(Note 1989 1530 fmg = \$1 00 October 1996 4 100 fmg = \$1 00 Source BMOI Tana)

Research fees are good for periods of 3 months. Malagasy researchers without outside funding but working in partnership with ANGAP on themes of common interest enter without cost. While there are minimum charges for children (2,500 fmg for expatriates, 250 fmg for nationals), these fees are waived when part of ANGAP sponsored programs in environmental education called "classe verte".

3.0 Current Situation and Plans

3.1 ANGAP's Mission Statement

The need for the development of a clear statement of mission - which should be widely communicated and actively acted upon became increasingly evident last year. In its 1995 strategic planning workshop, September 3-10 where strategy was laid out for ANGAP's EP-2 program proposal a clear mission statement was developed for the first time. ANGAP's mission is

"To establish, conserve and manage in a sustainable manner a network of National Parks and Reserves representative of the biological diversity and the natural environment unique to Madagascar. These Protected Areas, source of national pride for both present and future generations, should be places of preservation, education, recreation and contribute to the development of peripheral zone communities and to regional and national economies."

Having developed this mission statement, ANGAP senior staff proceeded to analyze the different functions that the parks system would need to carry out this mission. These functions led to outlining priority activities which would need to be initiated and sustained by the program, and the nature of the organizational structure (functional organigram) that would be needed to implement this. EP-2 donors and the Madagascar government found ANGAP's vision of the future coherent. On September 16-20, 1996 a review in Paris of the second five year phase of the Madagascar environmental action plan (NEAP), between the Malagasy government and multilateral and bilateral donors confirmed this vision with promises of full funding for the program proposed by ANGAP. The GOM has also made its commitment to provide the legislative policies needed to move the program forward - officially recognizing, for the first time, a "private" institution managing its parks and reserves.

3 2 New Organizational Structure for ANGAP

ANGAP has been reviewing its organizational structure over the past year and has internally gone through several versions of a new organigram during this period with new functions and redefined departments more in line with its function as a national park institution. The organigram below represents the most recent results of this long term review ending with direct input by Mr Botha Parks Board Director of Administration and following ANGAP's strategic planning workshop of September 1995. This has been officially put forth by ANGAP in its program plan document for PE-2. Internally ANGAP is already positioning itself along these lines.

A number of special features of this organigram should be pointed out

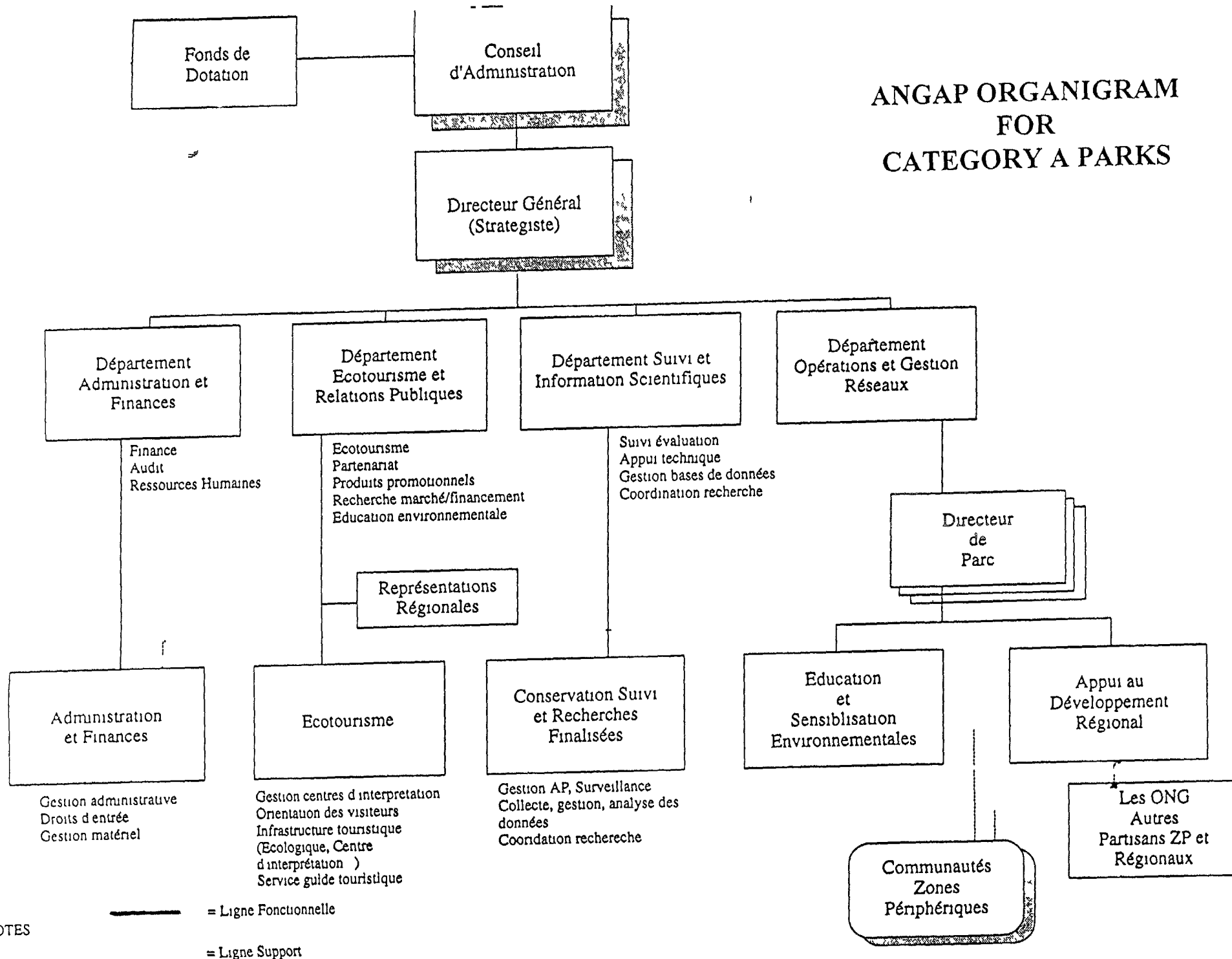
- (1) It is intended to lead to as flat an organization as possible - with a great deal of delegation of authority to the National Park and Reserve park directors (park managers)
- (2) The Director General of ANGAP will have primary responsibility for leading the organization and in outward contacts with the Malagasy general public and political world, with donors
- (3) There will be two operational line divisions: one for park conservation & management, the other for tourism development and marketing. The directors of both of these divisions will be field orientated and have as principal functions to support and guide the field park directors. Expatriate professional parks and tourism advisors have been recommended for both line divisions at the central level. The department for conservation management will hold hierarchy authority over park directors and be concerned with all areas outside the tourist service zones of parks and reserves. The department of tourism will have a functional technical guidance role of all tourist services provided within the service zones of protected areas. Other ANGAP Antananarivo departments are to become service and support orientated for the field parks and reserves and will not hold hierarchy authority over park directors
- (4) The development coordinator for each national park and reserve would be a permanent, senior position, to coordinate park activities as they touch or are influenced by the peripheral zone. This person would deal directly with peripheral zone village committees and development NGOs and others working in the area and would be the principal conduit of information/support between park and peripheral zone populations. This person would handle park entrance fee distribution for micro-project. Environmental education and ecotourism development would be duties attached to the field ecotourism unit

3 3 ANGAP's Future Institutional Role

For ANGAP to fulfill its role as a national parks and reserves institution, its institutional role within Madagascar must be more clearly defined and understood at the highest levels of government within the country. ANGAP is not a government civil service department or agency. It is a private association which has been delegated, on behalf of the State, to initially coordinate, and one could argue even manage¹³, the protected areas under its jurisdiction. It is actually very fortuitous that ANGAP has this designation as this is actually the most promising institutional framework it could have to fulfill its mandate. Dr Robinson, Executive Director of National Parks Board of South Africa, stated that "the national parks service of

7

ANGAP ORGANIGRAM FOR CATEGORY A PARKS



Madagascar should be an instrument created by statute to perform on behalf of the State a function in which the State has a direct interest" (Robinson 1994 4) ANGAP actually has much of this authority today

This future institutional role of ANGAP is in the process of being reconfirmed during current PE-2 planning at the highest levels of government, and will be ratified by the National Assembly. Several key proposals were put forth by the Malagasy delegation to the September 1996 EP-2 donor meetings in Paris which show the commitment needed to move ahead. Recommendations were made to modify the existing Madagascar Charter for the Environment authorized by the National Parliament in December 21 1990. Initial proposals to be placed before the Parliament through the provisions of a 'EP-2 Program Law for the Environment which would be a condition precedent to initial disbursement of funds. Draft recommendations include

"The management of the network of terrestrial coast line and aquatic and marine protected areas can be confided to a private, autonomous, national institution recognized as a public utility under existing legislation and will be placed under the jurisdiction of the Ministry responsible for the Environment" (Article 8 Chapter 2 of Projet de Loi De Programme Condition de negociation du Programme Environnemental II Paris, November 1996 4)

What is new here is the inclusion of "coast line aquatic and marine" areas of biodiversity which are not yet officially within the protected areas network. Some sectors of the government wanted these to be managed by a new government institution. The argument which won the case was that a "network of protected areas of Madagascar" must include samples of ALL forms of biodiversity and geography. ANGAP is not mentioned here, but will be mentioned by name, with reference to its mission statement, in a special legislation to be developed to implement these programs. Draft proposals to date read

"The Government commits itself to redefine the mandates of some institutions as well as the instruments needed for their implementation. The mission of the private organization charged with the management of the network of protected areas will be redefined in order to permit improved results. The management of the Protected Areas is hereby given to ANGAP which has evolved from its coordinating mission to that of strategic and operational manager for improved conservation of these natural ecosystems. In the context of this management the Government in concertation with ANGAP will take all legislative and regulatory steps necessary to permit ANGAP to contribute to the management of sanctions within the protected areas and to put into place management plans for the network (Declaration de Politique Sectorielle Paris 1996 4)

ANGAP has been asked to develop the text needed for a "Parks Act" which will define in greater detail all the roles and responsibilities of the institution. ANGAP should be recognized as the sole authority for developing ecotourism within national parks and reserves. ANGAP should not be reabsorbed into a government ministry, or become a parastatal of some kind (ie an "office"). Legal advice was received by the South African Parks Board (Dr Botha) and others during a September 29, 1995 meeting on this issue. We believe this institutional structure is Madagascar's best guarantee of continued international donor interest in support to the protected area program, particularly as a trust fund is established as one factor contributing to its future sustainability. This option is also the best option available for vigorous, flexible, and dynamic management of a Parks program. The 53 ANGAP Tana employees in 1996, for the most part, do not work like personnel of government bureaucracies - thanks to improved salaries and benefits and to a

genuine commitment to the environment. There is an eagerness to learn, experiment, and willingness to put in very long hours that can not be found in such institutions - for usually very good reasons. Only 4 of the 30 professional staff of ANGAP came from the GOM's DEF, and none of them have any interest in returning to that system of management. Any suggested move of ANGAP management of protected areas "back into the fold" of central government control should be strongly discouraged by donors - to the extent of removing funding support to the program.

3.4 Sanctions

ANGAP will not be able to effectively manage its network of parks and reserves without the authority to administer at least limited sanctions (as simple as giving a fine to be paid at the ANGAP park office). ANGAP's park rangers must have the authority to retain people causing infractions, to be turned over to the proper authorities. It would be highly desirable for ANGAP to be able to issue limited fines, whose revenue would remain with the park to help fund costs of surveillance. As seen in the proposed new legislation above, ANGAP has been able to make its case to the government, which appears prepared to at least permit ANGAP to "contribute" to this effort. This contribution should include at least the issuing of limited fines for such things as littering, defacing property, unauthorized penetration into park, individual tree cutting, etc.

3.5 Transition

Beginning in 1995, ANGAP began to take a more directional role vis-a-vis its ICDP field operators in terms of the development of park management plans, park infrastructure development plans, ecotourism (including services within park and peripheral zones). ANGAP has already been active in providing tourist guide training to all parks and reserves with visiting tourists. An accelerated program has begun with emphasis on the Isalo National Park which is under ANGAP's direct management, but efforts are also anticipated to influence three other priority parks: Ranomafana, Andasibe, and Amber Mountain. ANGAP also expects to give special parks management planning/implementation support to Masoala, Lokobe, and possibly Bemaraha - with the assistance of outside technical expertise.

An 18 month transition period, beginning January 1, 1997, has been put into place by USAID to move from the EP-1 SAVEM/KEPEM project mode of support to the Madagascar environmental program to the EP-2 'regional program' approach. The six USAID funded SAVEM ICDPs will move into new institutional relationship. In this transition, ICDPs will end June 30, 1997, and ANGAP will take over direct management of these parks and reserves. The development component of these programs will be passed to

other yet unidentified, regional partner institutions. Early indications are suggesting that this transition period will be a very rocky one indeed, and that not enough thought may have been put into the impact on the national institution created in EP-1 (ANGAP) or the effect on local communities and employees involved in the NGO managed ICDPs. The perception at the end of EP-1 was that 'so much' assistance had been given to the protected area program during EP-1, and that ANGAP in particular had succeeded so far beyond the other executing agencies of the EP-1 program, that EP-2 would need to 'redress' this situation. Less support would be given to ANGAP and the protected area program and greater support to other executing programs. The problem is that in doing this donors and USAID in particular will most likely see significant program deterioration at both ANGAP and within the field programs of protected areas and their peripheral zones. There is a real danger that EP-2 will not in fact build upon the costly lessons of EP-1, but will head off into new and untested waters - leaving behind an insufficiently supported new parks institution dealing with major problems left behind by departing NGO operators.

3.6 Park Signs, Uniforms, Logos, and other Publicity

1996 has seen great improvement in the establishment of common park signs and trail guides, and in general tourist information centers. Four park interpretation centers modeled after USA centers of this kind, are in the process of development in the four priority parks of Isalo, Ranomafana, Andasibe/Mantadia, and the Ankarana. These parks have also developed park logos, which have already been applied to a new ANGAP series of publicity pamphlets for these parks. ANGAP has developed its own "parks network" logo to replace the ICDP logo in use since 1993. A common uniform for park personnel was agreed upon in 1995. ANGAP Antananarivo staff set the example, in October 1995, by being the first to wear this.

ANGAP has also developed, in Tana, a special office for selling of park entrance fees and various products. Six income generating national parks and reserves posters were completed in June 1995 and have been for sale. A high quality 1996/1997 national parks and reserves calendar was completed and on the market at the beginning of October 1995. A promotional video (French, English, Malagasy) of the four priority parks has also been completed and was ready for sale in 1996. Each park has a 9-10 minute presentation on this video.

4.0 Lessons Learned with ICDP's in Context of Conserving National Parks and Reserves

Integrated Conservation and Development Projects (ICDPs) of the past few years in Madagascar have highlighted a number of major issues which were not adequately addressed at the onset of the program, and which, if not to be considered fundamental design errors of existing programs, must at the very least be

now addressed. A need for refocusing is probably necessary with the next phase of EP-2 as it concerns the protected areas and ANGAP, being substantially different from the first phase. Because of the strategic experimental nature of the first years we must now take the lessons learned and move on.¹⁴ What are these areas of concern? What have we learned?

The basic problem with the ICD concept during the past several years in Madagascar has always been just what kind of development were we talking about? How does one define "conservation"? Who should be responsible for this development and conservation? What national institution (government or private) is expected to continue ICDP activities initiated? Which activities? Is this sustainable? Who are the people "of the peripheral zone"? Are they those people most immediately responsible for the pressures upon the protected areas, or are they everyone in the region and the nation?

Based on experience gained in the past several years responses are given below to some of these questions

4.1 The Clarification of CORE Concepts

For the protected area program in Madagascar, a number of spatial designations have come to be quite important

(1) The Park Management Plan

The first activity of any operator, including ANGAP itself, in any park or reserve, is to begin to establish a park management plan. While this document is expected to evolve over time, it is essential to place the various components of program activities of a park or reserve into perspective. While some parts of this outline must be common to all parks and reserves, other parts will depend on specific characteristics (eg. whether or not ecotourism is an option). This has led ANGAP to designate three categories of protected areas (cf. Table 1)

Category A All those national parks and reserves with revenue generating potential through development of ecotourism

Category B All those parks and reserves without significant ecotourism potential but nevertheless under significant pressures from local peripheral zone populations on park natural resources. Some targeted peripheral zone development activity will need to be encouraged along with proper conservation surveillance and supportive infrastructure. ANGAP has divided category B parks into two sub-categories based on whether or not they will be under direct ANGAP management in EP-2

Category C All those parks and reserves with neither significant ecotourism potential nor under significant pressures from local peripheral zone populations on park natural resources. A limited conservation surveillance infrastructure and presence is required

(2) The Protected Area

This should be zoned as part of the park or reserve management plan to include areas of total protection, areas of limited access (for research or tourism), buffer and service zones. The protected area is

the domain over which a parks service has authority on behalf of the State. Madagascar has traditionally tried to use legislation to create different kinds of management (some parks are classified 'strict natural reserves' others 'special reserves' etc) - but this has not worked. A preferred course is to classify a special national resource as a 'national park' and to then define the areas for total protection, areas for research, areas in which tourists can visit, etc as part of the management plan. This permits greater flexibility in an environment where legislative changes are extremely difficult to obtain.

We have learned that 'the efficiency of law enforcement remains a crucial determinant of the conservation status of' biodiversity and that 'proper equipment, training and compensation of parks staff still promise high payoffs in conservation of protected species' (Barrett and Arcese 1995:1081). However, we have also learned through analysis of historical spatial data of protected areas in Madagascar that the statute of **protected area** itself, even in absence of effective official deterrents, has slowed biodiversity loss - when compared to what has happened in the peripheral zones around these protected areas (Swanson, 1996b:33, Jean-Michel Dufils 1996:3-7, cf. Map 3 of Ranomafana National Park as an example).

(3) The Buffer Zone

This falls within the protected area boundary. It is located on the outer perimeter of the national park or reserve, particularly in areas of high human pressure upon the park. It is often somewhat degraded from human pressures. A buffer zone can be used for mutually agreed upon sustainable natural resource management practices by peripheral zone communities (cattle grazing, farming, beekeeping etc), but not for infrastructure development by local or private sector interests.¹⁵ The parks service itself may establish service zones within this area. No official buffer zones yet exist for any protected area, though new legislation before the GOM would create these in several national parks.

(4) The Service Zone

This also should fall within the protected area boundary. It can be located on the outer perimeter of the park or reserve, or in some other well defined area of the park. Tourism services could be located in this area (interpretation center, park management offices, tourist lodging and facilities). Here, ANGAP hopes to develop contractual agreements with private sector partners who will compete for the privilege of operating in proximity to spectacular areas of the park. This will provide a means of generating revenue from mid to high end tourist infrastructure through some form of "rent" payments. This is a high impact tourist area. Madagascar law concerning national parks will need to be revised if such a service zone for tourists is to be

put into place (within current boundaries of parks) as this is not something that actually exists today. Such a modification would be fully within the rules established internationally by IUCN¹⁶ for use of national parks. To overcome this problem, ANGAP is currently obtaining title to land currently found within the peripheral zone, outside current park boundaries - thus giving ANGAP legal right to manage this on behalf of the State. When regulations permit, this will be placed within a newly defined buffer zone, within official park boundaries.

(5) The Peripheral Zone

This is an area surrounding the protected area in which human occupation is expected. Peripheral zones have been spatially defined around most of ANGAP's principal parks and reserves (eg. Map 3 of Ranomafana National Park). Being directly outside the protected area, ANGAP does not have any direct jurisdiction over it. The exact size of this area is still under discussion, but the definition found to be the least arbitrary includes all the *fokotany* (smallest administrative division) physically touching the boundary of the protected area. In some cases this area is considered too large and a smaller unit of area needs to be defined. The peripheral zone is considered an essential part of the protected area management system in that this is the area from which much of the direct human pressures are exerted upon the protected areas. As a front line of defense, a second "buffer zone" it is here that initiatives to jointly manage protected area resources with local populations has the most promise for favorable results. It is here that private sector tourist infrastructure must be developed carefully not only to be economically advantageous to the local people, but not to have negative spin-offs for the protected areas which attracted them in the first place.

ANGAP is clearly conscious that peripheral zones may become "economic zones of attraction" in the region and that attention must be given to the rational development of these areas. Without planning, random and uncontrolled development of gateway communities could well diminish the appeal of the protected areas which provided the economic incentives which drew these people in the first place. ANGAP, in late 1996, has taken the lead in seeking a high level workshop with the Ministry of Tourism and other concerned partners to develop some kind of legislation on development within this area.

(6) The ICDP Concept

The basic doctrine (or hypotheses) of the Integrated Conservation and Development (ICDP) approach states that if the socio-economic interests of people living in peripheral zones of protected areas are addressed and sustainable alternatives identified, developed and adopted, then these people will become a major factor in the sustainable exploitation of the natural resources of the area and in the long

term conservation of the adjacent parks and reserves. People's needs living around protected areas must be addressed, but how these are addressed can not be effectively done through ICDPs. One final conclusion of the question 'Do targeted development activities reduce pressures on parks/reserves through changed human behavior' (Swanson 1996a) must be that "it is biologically unsound to base human needs, which must be assumed to grow, on the harvest of wildlife populations that will not grow" and that we must 'decouple human needs from wildlife harvest within protected areas (Barrett & Arcese 1995:1077-1081). It takes a long time to change human behavior - particularly in the kind of isolated rural areas where ICDPs generally work. Madagascar ICDPs have not provided conclusive evidence that conservation-development linkage can be made strong enough, with enough people, quickly enough, to have any real long term impact on the basic problem of continuing biodiversity loss.

ANGAP has "learned" about those types of general "development" activities most consistent with its own role as a parks service (discussed below). Other development activities within the peripheral zone and wider region must be pursued through partnership with various local and international NGOs and other private and government institutions. ANGAP fully endorses the concept that "No park is an island!" and that "protected areas are connected to their surroundings in a myriad of ways: ecologically, socially, economically, spiritually, and culturally" and that planners need to "take a broad-based, multi-disciplinary, team approach to managing today's protected areas" (Barzetti, 1993, p. 50). The key to success for ANGAP will be how it determines its own specific role within this partnership.

We would emphatically agree that

ICDPs must be regarded as no more than short term palliatives in a longer term struggle to refocus attention and resources on parallel processes of rural development, poverty alleviation, and wildlife conservation. There is no substitute for broader commitment by government, external donors, and NGOs to solving these rural problems and to coordinating, if not necessary integrating, such efforts. (my emphasis)(Barrett & Arcese 1995:1081)

This could be a direction that the second environmental program could take through its "program approach", with emphasis on looking at larger regions in which specific protected areas are found. The "conservation" component of the ICDP in Madagascar will take off as the parallel 'parks and reserves network' managed by ANGAP. The "development" component will split into different parallel efforts implemented by organizations with various specialities.

4.2 Lessons Learned about "What type of Development"

ICDP projects in Madagascar have provided a number of valuable lessons for future programs in biodiversity conservation. Those which seem of particular importance to ANGAP and its future partnership roles with communities and the wider region around parks are summarized below. Lessons for ANGAP's

future development partners are also suggested

(1) The Need for Focusing, Prioritization, a Sense of Scale

There has been reticence by the operators/field staff of some ICDPs to focus clearly enough early enough, on establishing linkages between proposed development activities and the conservation principal objective "reduction of pressures" That part of the monitoring system intended to help bring forth this aspect (ie impact on behavior) of the program has always received low priority in terms of early staffing and implementation One lesson learned is clearly that M&E activities must be initiated at the beginning of any program activity - not halfway through when programs are already mobilized towards different objectives

The SAVEM project has insisted on the development of "hypothesis statements" defining perceived linkages between proposed development activities and the conservation objective - to be tested through implementation and monitoring The argument is that we are implementing certain development activities, at certain scales, in certain areas with certain people, based upon some kind of expectation linked to project objectives Activities therefore need to be results orientated

Inducing people to change their behavior will be most successful when (1) there is a clear and direct link between the conservation objective and the project component and when (2) the threats to the resource base are direct and clear not when they are caused by many actors for many reasons' (Brandon & Wells 1992 567)

In reality, SAVEM development activities have rarely been this focused or results-orientated Development operators have been able to justify every kind of development activity imaginable, showing at least an indirect linkage to conservation objectives In spite of trying to encourage operators to identify those activities which were, nevertheless, MORE DIRECTLY LINKED, ANGAP in its "coordinator role" had limited success in influencing development operators to a more focused treatment of the "development for conservation" theme

"The end of (the development activities of) ICDP's is not development", but "a means to achieve conservation objectives" (Brandon & Wells 1992 267) We have learned that given limited human and financial resources limited time, and scale of impact, clear prioritization must take place In most cases, there appear to be too many activities, with too few people (sample) to have any hope of impact in any foreseeable future And, in many cases, the expected impacts have not been clearly enough thought out for major activities to permit the kind of targeted monitoring necessary Where strong positive "tendencies" towards improved natural resource management of the kind desired takes place, it is also clear that the reasons for this can not be attributed to a single activity It is the synergistic effect of several good activities

which seems responsible (Swanson 1996a 12)

Experience has shown that the "C" and "D" components of ICDP projects have operated independently of each other - like separate sub-projects. The "D" has tended to be unfocused "regional rural development" when during PE-1, we had hoped for actions within a more clearly defined peripheral zone around the parks and reserves. While this seemed particularly acute in some ICDPs, it was generally true of all six SAVEM ICDPs and others funded by other donors as well (Andringitra Marojeje Bemaraha). While fully agreeing with the need for and importance of rural development in general, this approach was not sufficiently focused towards the actual protected areas which were initially the "raison d'être" of these ICDP activity. Should a similar program every be implemented again, this experience would suggest that more focused rural development activities need to be conducted in defined peripheral zones of parks and reserves, and that this should be coordinated, managed, and implemented by public and private institutions with proven expertise in such activities. Local park staff personnel would be assigned to community relations as a partner in program planning and strategy. An umbrella "coordinating" central organization (whether operator or public) is probably not an efficient institutional arrangement to implement such activities.¹⁷

Because of the wide range of conditions among the different national parks and reserves under ANGAP's jurisdiction, it is clear that the same formula approach can not be applied everywhere. Some reserves are very isolated and will rarely, if ever, be visited by a tourist. But there may be many people living around the reserve and exerting pressure. Here protection and local management options are more the issue and approaches with local populations must be different. There are other reserves, which are isolated, where low population density results in little pressure upon the resource. Yet there are about 10 national parks and reserves which are both under heavy pressure from local populations and are also important (potential) tourist destinations.

(2) Development Actions the Madagascar National Parks and Reserves Program Must Pursue

We have learned that ICDPs as designed in Madagascar for PE-1, were probably too complex, had too much money to spend, in too short a time, and are not sustainable. If they have taught us what kind of activities ARE sustainable and appropriate, however, then it can be argued that these ICD projects have in fact succeeded in their stated purposes. That future investments of this kind will be more focused and therefore more cost-effective would be an important lesson learned! Has this kind of learning taken place?

I believe we have learned of at least five types of "development" activities which do clearly provide the kind of linkage between conservation and development, the "ICD" consistent with a protected area program's sphere of direct activity. ANGAP has come to refer to these activities as the 'petite d' (small d)

of its own involvement in development (ICdP) within the peripheral zone - as opposed to the "grande D" (big D) of development which partner institutions will take over in the ICDP programs of the future. Two of these five "development areas" suggested below apply to only the 9-10 parks and reserves with ecotourism potential. I would suggest that at least these five types of "development" could provide a principal focus for national parks program efforts oriented to the people living outside the borders of the parks and reserves. Other "development for development" activities (the big D) taking place within and beyond the peripheral zones of established parks and reserves should be implemented by independent agencies and NGOs who could collaborate with ANGAP, particularly in the peripheral zones in assessing the "environmental impact" of such activities on the protected areas. Such development activities could be done within the context of ICD programs orientated towards other agencies. The five types of development activities with clear conservation linkages which clearly should be supported by the future protected areas program include ¹⁸

-1- Ecotourism Service Development

All activities supporting ecotourism service development both within parks and reserves and within their peripheral zones and regions are legitimate spheres of development activity for a parks program. Ecotourism development can clearly provide an economic stimulus to economically deprived regions and can lead to sustainable economic development in the peripheral zones. This in turn is raising the consciousness of associated people (local, regional, national) concerning the inherent value of these wilderness areas. Activities could include appropriate development/city planning assistance in and around emerging gateway communities, efforts which could greatly reduce the danger of uncontrolled and ugly infrastructure development (ie Ranohira for Isalo, Moromanga for Andasibe, Ranomafana for Ranomafana, Joffreville for Amber Mountain) which would detract from the beauty of these sites. Improving the quality of local crafts for sales to tourists provides other ecotourism outlets. Structured ethno or cultural tourism in the peripheral zones, provides further sources of revenue generation - providing alternatives, for some people at least, to selected pressures upon the parks. An example would be the Bemaraha log canoe trips, led by local fishermen, up the Manambolo river, above the town of Bekopaka, to view caves and ancient tombs along the *tsingi* river cliffs. A wonderful, novel experience! Lodging, food and other services provide additional ecotourism generated income both locally and regionally - with multiplying effects of cash input into locally depressed economies.

Even in the absence of appropriate infrastructure, the numbers of tourists visiting Madagascar protected areas has been growing significantly since 1992, when accurate records began to be kept. In three national parks, the attendance has doubled each year from the previous year for three consecutive years.

With improved park services interpretation facilities and park accommodations ANGAP is optimistic that tourism will become an important factor in the sustainable conservation of the parks network as well as contribute to the socio-economic development of the peripheral zones

-2- Park Entrance Fee Revenue Sharing and Micro-Project Financing

ANGAP gives back 50% of all tourist generated park entrance fees to local communities of the parks visited, thus realizing a direct link between conservation and development, and creating new management partnerships between local communities and the concerned park (Peters, 1994) The sacrifice being made by ANGAP to share in this way is illustrated in Isalo National Park where an estimated \$40,000 would be given to peripheral zone communities in 1997 alone! Yet the sacrifice is at the same time an investment in goodwill for future sustainability of the park

The micro-projects funded from this tourist generated revenue represent an important means for an estimated 10 national parks and reserves to contribute to the socio-economic well being of their peripheral zones Micro-project activities are chosen by the peripheral zone populations themselves The only condition placed on the use of these funds is that activities not be harmful to the environment and that they be community (not individually) focused They have included helping communities set up their own tourist camping grounds, repair elementary school infrastructure, provide health care workers, set up village cereal banks, etc (cf Swanson 1996b) Recipients unquestionably have made a direct linkage between the park's existence, and the economic benefits THEY have received The number of people benefiting in this way, though yet limited, is certainly expected to grow over time A major issue here is the definition of the limits of the peripheral zone and who therefore, should be recipients of these funds An emerging definition targets all those villages/communities which fall within the smallest administrative unit (fokontany) actually touching the limits of the park or reserve

Entrance fee revenue (the 50%) for peripheral zone community micro-projects is sustainable money being generated by the system When donors depart, one still expects the tourists to come, even increase, and for this revenue to also increase It is important that ANGAP continue to give this 50% back to local communities, and to build upon the base of good will which has been initiated by this action ¹⁹ ANGAP should also seriously consider using this money as a kind of "trust fund" for the communities - using it for example to help set up savings and loan programs initiated by other specialized institutions ²⁰ The money would serve as both a guarantee against defaults and also provide a source of funds for loans This would greatly expand the impact of the 50% of the DEAP returned to communities

-3- Environmental Education

All activities which can be considered as "environmental education" among populations both within the peripheral zones and the larger regions near various parks and reserves are essential areas for ANGAP involvement. This would not only include publicity efforts of ANGAP and its network of parks and reserves to communicate environmental themes (posters, calendars, video, publications) to a wide audience in Madagascar. It would also include bringing local populations into the parks and reserves, particularly school children, for several days of environmental training - training about local flora and fauna, about local history and culture, the geology and ecosystems of the park, etc. According to ANGAP statistics for 1995 50% of total park visitors (36,720 people) were Malagasy, of whom more than half (56%) were school children brought in by ANGAP under a program called "green classes" (Swanson, 1996a:20). Environmental education would include helping school programs in the peripheral zones around parks and reserves in their environmental education programs - as currently done by WWF in their Amber Mountain National Park program. Actual impact of such activities has yet to be determined. Impact on children, and through them, their parents for environmentally correct behavior can not be expected to have immediate impact - it may take a generation.

It is important for park ecotourism departments to communicate clearly the importance of the economic impacts of the above two "development activities" both locally and regionally to raise public support for conservation of these national parks and reserves.

-4- Targeted, Small-Scale Activities Directly Linked to Top Ranked Pressures on Park

ANGAP, within the defined peripheral zones around its parks and reserves, will need to focus attention and some financial resources upon targeted, small scale activities which could have a direct impact on reducing top ranked pressures upon the park, as developed in the park management plan. Use by peripheral zone communities of their portion of park entrance fees, where available, could be orientated in this way. ANGAP would have the role of donor, and channeling some funding to partner private or public institutions capable of implementing such activities. It would not itself implement these projects in the peripheral zone. Examples of such activities could include reforestation, support to intensive farming systems, agro-forestry and contour farming.

-5- Community natural resource management programs in peripheral zones

ANGAP, again within defined peripheral zones around its parks and reserves will want to continue to be actively involved in promoting community natural resource management planning. In some cases this will mean defining buffer zones outside current park limits which need to be incorporated into the legal park boundaries - but which permit community access to certain resources (*zones d'utilisation contrôlée*). In other cases, this will mean defining 'controlled occupation zones' - by helping communities/villages obtain long term contractual (concession) rights to land areas around their homes based on mutually agreed upon sustainable natural resource management uses (*zones d'occupation contrôlée*). The purpose is to limit open access to lands which currently is a primary pressure upon remaining wilderness areas. Again, ANGAP would not itself implement such studies or activities, but would be a facilitator, animator, and possibly channel funding to partner private or public institutions capable of implementing such activities.

(3) Other "Development" Lessons Learned

What about all the rest of the development efforts taking place - the "big D" of ICDPs? Adult literacy? Animal husbandry? Health services? General rural development? Roads and bridges? The answer is that it is not the responsibility of a national parks system to take the place of the ministry of agriculture, education, or health in providing these services. I do not in the least suggest that socio-economic rural development activities are not important. They are! But we do not believe it should be the responsibility of a national parks program to run them, or even coordinate them. Private sector and government agencies with proven expertise in these areas should lead in these efforts in close collaboration with ANGAP in the peripheral zones of parks and reserves.

A number of other general principles have also come in to focus concerning the "development" of ICDP programs. Perhaps the most important of these is the concept of transversality - a term being frequently used in the EP-2 program approach.

-1- Transversality

This author has visited most of the 13 ICDP programs implemented over the past few years by various donors in Madagascar. One is frequently amazed to find that many of the same development problems are being confronted by the various programs without any attempt to learn from the experience of others in the country, or to work together on common problems - seeking common solutions. This is true within the USAID SAVEM ICDPs as well.

To give a simple example, almost all of the protected areas have found that beekeeping is an environmentally friendly activity which has great potential in the peripheral zones of most parks and reserves. There are people with traditional beekeeping or honey hunting interests who are clear potential stakeholders in this. Yet, one also finds that there is actually extremely limited expertise or vision on how to develop such an activity. Hives which are introduced frequently are not appropriate to the socio-economic levels of the people concerned. The activities are not looked at in a holistic sense - from start to finish. The commercialization side or the sustainable supply of materials side is usually ignored until these become 'problems' - at which time the project is usually about to end - and the activity ends up a failure for lack of provision. Problems which could have been foreseen!

This situation leads to another lesson learned. Successful program activities of ICDPs should be grouped into activity-classes - and professional in each of these should be given the responsibility of supporting and implementing these across the different regions. Rather than one development operator trying to do something in many different activity areas (often without available expertise), such operators should not be used at all. Rather, responsibility in developing these "activity-classes" should be given to independent contractors with proven expertise in these fields. To take the example given, one group should be responsible to implement beekeeping activities which are targeted to the economically disadvantaged peoples around protected areas.

What other "activity classes" could be identified as particularly successful during EP-1 which merit support of this kind? Candidates include (1) on-farm, contour, hillside cropping systems extension, (2) rural savings and credit programs similar to the MEC of Zahamena, (3) community granaries focused on food security, (4) environmental education orientated towards rural schools, (5) small farmer agro-forestry initiatives- orientated towards individual ownership, (6) *raffia* crafts development for tourists, (7) small farmer vegetable gardening linked to hotel needs.

-2- The Direct Pressure Agent

Targeted development activities are rarely, if ever, truly targeted. Programs end up working with people and households willing and interested to listen to them - hoping that this will "trickle over" to the people who are causing the "direct threats" upon the protected area biodiversity. This has not been successful. Those keeping improved bee hives under beekeeping programs are usually not the same people who are hunting the honey in the forests. Those raising chickens, pigs, livestock with project support around Amber Mountain are not the same people who are growing 'Khat' (a plant stimulant) under the cover of the park forest trees - though this was the hypothesis given which would 'reduce' this pressure.

-3- Village Groups

Another recurring theme in many ICDPs has been the difficulty of initiating 'village associations or groups' with whom the program could develop development efforts. There is widespread reaction and mistrust of any such groups which are 'created' and disappear soon after. Most ICDPs, in early years, were able to create many such groups based on the recipients perceived (correct) belief that this was the way to receive project benefits. But such groups once the money was distributed usually quickly disappeared. It makes no sense in Madagascar, to create a group in the absence of a real need which would draw a group together. It is often only after individual households find that a specific need can not be met in any other way that they begin to show genuine interest in a collective response to solve a specific problem (eg cattle vaccination in Bemaraha, commercialization of honey in Andranomena, purchase of feed for chickens and commercialization in Amber Mountain). One does not create a group first, and then look for needs to fulfill. It is community initiated needs which require a collective response which leads to the formation of a group which may become sustainable. Such needs draw the right kind of people together. Outsiders to a community should only help facilitate this process by providing information on possibilities, resources available, rather than being too proactive in creating them in the first place.

-4- It Takes Time to Change Human Behavior

Though already mentioned in other contexts, a clear lesson learned is that some donors continue to have unrealistic expectations in how long it should take to observe 'significant impact' of their environmental activities. Most ICDPs have only been underway for about three years, and this time scale is totally unrealistic to conceptualize, create field teams, develop confidence of rural populations, implement programs, and realize changes in long held destructive behavioral patterns among rural populations. The environmental program was conceived as a 15 year program, and only five of these years have past. Major changes in program support by the sixth year does not respect commitments made earlier for continued support. Consistency. Commitment. Professional guidance. Financial support. All are required over the long term in targeted areas and targeted institutions if investments are to pay off in sustainable programs.

4.3 Lessons Learned about "What kind of Conservation"

A parallel issue is what do we mean by conservation? If we are to review the experience of the past five years in Madagascar, and ask ourselves "How have ICDPs actually interpreted their conservation mandate", we learn that as it concerns the park or reserve itself most if not all, have largely interpreted

this as park delimitation efforts park boundary patrolling and basic and applied conservation research This is raised as an issue however, because there has been an almost total lack of serious park planning and management strategies One would think that one of the FIRST "conservation" efforts of an ICDP operator, as it concerns the "conservation" of the national parks or reserves themselves, would be to develop park management plans, yearly updated, with proper zoning, development of proper infrastructure, including where appropriate, tourist trails and facilities And justifying what kind of research (basic and applied) needs to be done, and when This was not the case

The "C" of many ICD projects has tended to stress conservation in a more rural development sense Agro-forestry, watershed management soil conservation activities, etc are all forms of "conservation" But these are all essentially peripheral zone activities While these are important aspects of conservation, and must be addressed as part of a regional approach for development activities (the "D" of ICDP), the most important "C" of all, was frequently slighted or even neglected Conservation, and its sustainability, of the biodiversity found within the borders of the protected area is the essential "C" as we understand it, and the specific mandate as given to ANGAP by the government of Madagascar This is not to suggest that ANGAP should not be concerned with, and actively promote, applied research in understanding the dynamics of ecosystems around the parks and reserves of which the latter may be an important component The economic value of these parks and reserves within a more regional context is essential to understand so that the attention of the proper authorities (regional and national) can be drawn to this "value" and that partner institutions can be directed towards conservation development themes which need to be addressed

We have learned that the initial assumption, as realized through existing ICDP projects (SAVEM and others) in Madagascar, that local and international NGO's (WWF, Conservation International, CARE, VITA, UNESCO) would be capable of developing professional protected area management plans was misplaced²¹ SAVEM projects began in 1992-1993 By the end of 1994, no ICDP operator, with the exception of Ranomfana National Park (Stony Brook), had yet developed a comprehensive park management plan, considered to be the essential building block for any program, where development would need to serve the conservation objective It became clear that operators were not giving this aspect of the program high priority Again, with the exception of Ranomafana, not one protected area operator had included any professional park management and planning specialists as continuing input in their programs While five of the six SAVEM project ICDP's have significant tourism potential, ecotourism services until very recently (in 1995) were neglected in most Park infrastructure and trails were not maintained or were poorly developed Even park and trails signs were not developed in some SAVEM ICDP locations with high tourist potential Tourists in all major parks have begun to complain about inappropriate behavior on the

part of park guides furnished by local independent guide associations - another perhaps badly conceived product of ICDP experimentation

ANGAP has come to understand from visiting park consultants from various parts of the world that some of the best national parks in the world, ones which are not only financially sustainable but generate revenue for the parks network, are operated with less money each year than what donors are currently funding in individual national parks and reserves in Madagascar¹. And what does ANGAP and the protected area program have to show for it? In many cases very little¹. What kind of conservation sustainability has been built into the system? None. In fact ANGAP will inherit by the end of EP-1 an inventory of capital goods (buildings, used vehicles, computers, etc.) without any means of maintenance or replacement. It will have, because of massive donor supported development activities in peripheral zones, the raised expectations of peripheral zone populations for continued assistance which may well be terminated or greatly reduced at the end of PE-1 ICDP activities.

By mid 1994, ANGAP began to become very concerned about this situation and to develop specific responses to them. ANGAP was assisted, by TR&D, in defining its long term vision of where it was heading, institutionally. It was only towards the end of 1994 that ANGAP actually began to focus on its potential role as Madagascar's national parks institution. ANGAP's entire short and long term training plans for its own, and ICDP "conservation component" staff have been reoriented, since January 1995 to this park management future.

One of the major components of the next five year environmental action plan for Madagascar, towards which donor funding will be channeled, is called "National Parks and Reserves and Ecotourism". The management of Madagascar's national parks and reserves includes biodiversity conservation within the parks/reserves as its primary objective, followed closely by the second objective of the financial sustainability needed to sustain this conservation objective. The belief that conservation "must begin to pay for itself" has been adopted. Setting up a trust fund and ecotourism development are considered important areas for developing this sustainability. Continuing support from donors and the GOM is essential through PE-2 and PE-3 as serious efforts are made in this direction. Finally, the belief that the support of local populations is essential for the long term sustainability of these wilderness areas has been accepted.

4.4 Other Lessons Learned

There have been many other lessons learned. These include

-1- The not-for-profit association as “park system manager”

The past four years experience has confirmed that a private not-for-profit association such as ANGAP works more efficiently more effectively than a government bureaucracy in coordinating a national parks and reserves program. We believe experience in Isalo during the next year will show that this extends to direct management as well. EP-2 September 1996 Paris donor and Madagascar government talks on the GOM's future support to the environmental program once again confirmed the wisdom of this institutional model for such parks management.

-2- Sustainability and the “Depreciation” Problem

There is a need for donors to help build in true sustainability into protected area program institutions. The SAVEM project name speaks of "sustainable approaches to viable environmental management". Neither the development activities of SAVEM are sustainable (without continued funding), nor are the conservation activities sustainable (without continued funding). Donors may not be referring to "funding" sustainability, but rather developing behavior changes and activities which local people can adopt which will lead to sustainable use of natural resources. But even this later objective will never be realized if local (financially) sustainable institutions are not developed to handle this objective in the long term. This is a long term objective, and donors generally have short term funding horizons.

Therefore, another lesson learned if sustainability of Madagascar's national parks and reserves is considered, in itself, an important objective and part of the strategy to develop "viable environmental management", then it is essential that ANGAP move towards financial sustainability for park and reserve management. As Havenga pointed out:

'There is specific financial management for nature conservation activities. It is very important to be aware of this. (Nature conservation financial management) is not like other forms of financial management in the private sector where the profit motive rules. Building a healthy financial base for conservation activities means sustainability: that is money which enables you to fund and maintain activities of conservation. If someone gives you \$20,000 once, and you use it without generating income, it is not sustainable. But if you can generate \$5,000 every month, and it is enough to cover all your expenses, this is sustainable' (Havenga 1995:5)

Donors should make sure that essential depreciation costs are actually put aside by the institutions they are supporting each year (and invested, through ANGAP's future trust fund, for example) to cover the replacement costs and maintenance of essential infrastructure and materials. This is a key item to monitor closely. Otherwise donors are funding capital investments which a local institution can never expect to maintain or replace - requiring future donor support (if available). And when not available, one quickly sees the structural deterioration so evident in all developing countries. To "put aside and invest" depreciation

costs is financial discipline which a private institution such as ANGAP must follow if it is to become sustainable

-3- Too Much Development?"

We have learned of the real danger of "too much development" in the peripheral zones of parks and reserves. "Too much" in the sense that continuous input of donor funds towards development activities which can not be sustained in some manner may in the long run do more harm than good when the funds run out. Expectations are raised which can never be fulfilled by local institutions after the departure of the project.

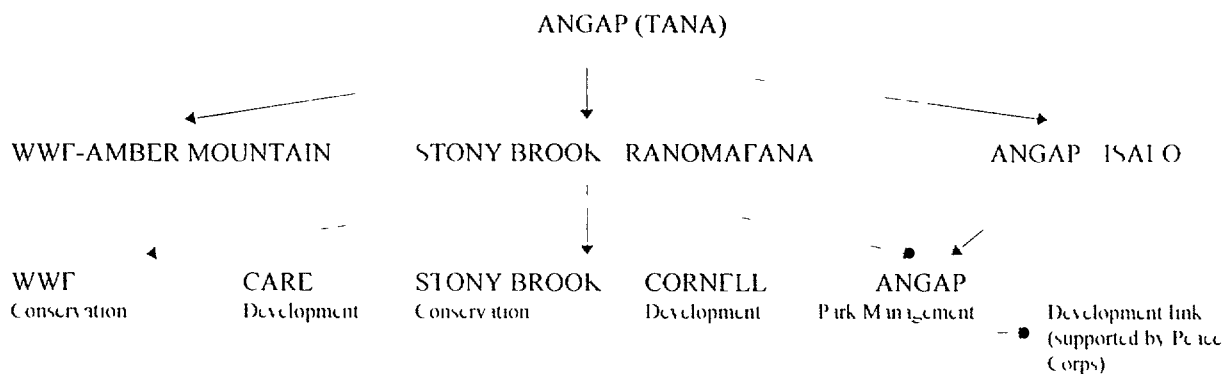
-4- Multiple Operators for One Protected Area's Program

We have learned that multiple "operators" of individual ICD projects do not lend to good management of program activities. Within each EP-1 ICDP project, there has usually been one operator involved with conservation, another with development (with local NGOs usually involved in the development area as partners). Experience has shown that in most cases, the two major operators could not in fact develop a common program, but tended to operate two parallel sub-projects in each region. This problem was most evident at Amber Mountain where WWF and CARE were involved, which led in 1995 to a divorce between the two institutions - with CARE asked to withdraw. This pattern has certainly been common elsewhere as well, however.

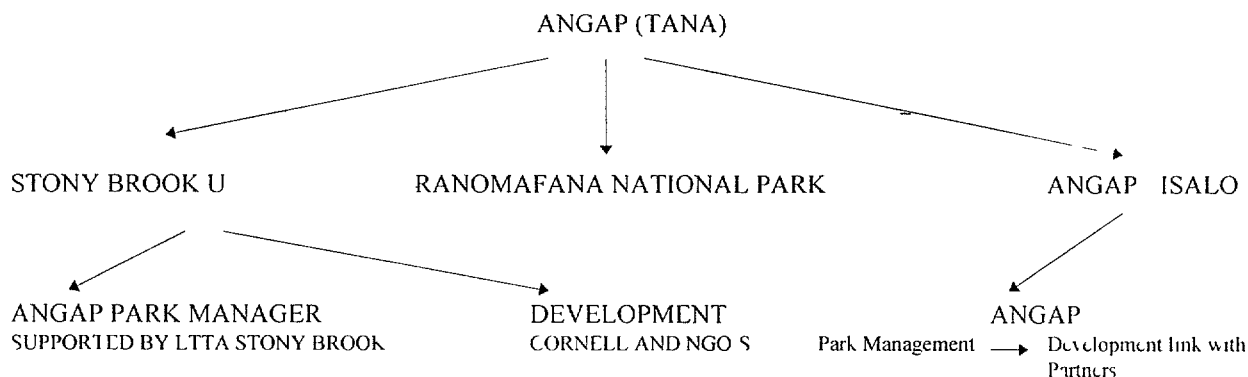
A major reason for this situation is that management of an ICDP project, in areas which usually have very little other outside program support, is simply too complex. The lack of ability to focus the desire to respond to "the needs" of local populations leads to programs which are difficult to manage. Maintenance of institutional identities and unique "approaches" also seems to contribute to this problem. Future design of ICD programs in Madagascar will be substantially different because of ANGAP's development into a national parks institution. This will promote a "relaxation of the excessively tight interdependencies" between institutions characteristic of EP-1, which should promote more efficient use of the specific expertise of NGO institutions (Brinkerhoff 1996: 1506). This process is illustrated in Figure 1 below. ANGAP will progressively directly manage all national parks and reserves in Madagascar over the next few years, replacing international NGO's who have been filling this role. During 1996, ANGAP expects to become increasingly involved in management of the Amber Mountain national park/reserve complex, and Ranomafana National Park, currently operated by WWF and Stony Brook, respectively. Most development activities in peripheral zones and regionally will be implemented by appropriate local and international

Figure 1 Process of Change of Roles between ANGAP and ICDP Operators

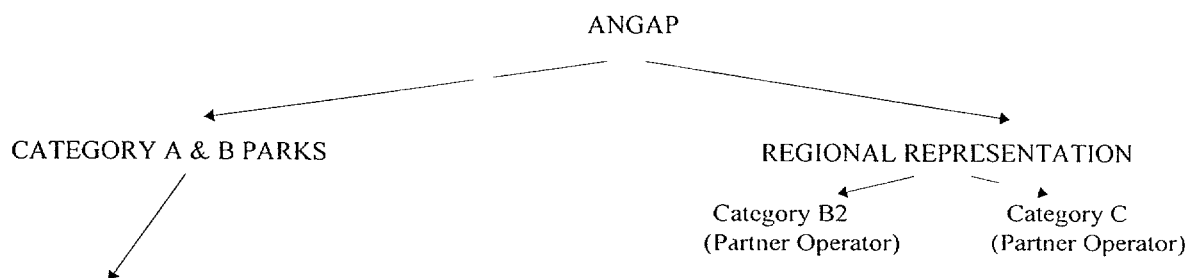
JUNE 1995



POTENTIAL MODEL FOR 1996, 1997 ICDPS



FUTURE (AFTER 1997)



AMBER MOUNTAIN (& ISALO RANOMAFANA ANDASIBI MASOAI A etc.)
PARK MANAGEMENT

- Conservation Research - Partner support by Stony Brook University (or other institutions)
- APPROPRIATE PZ DEVELOPMENT - Supported by partner local and international NGOs as appropriate
- Environmental Education - Partner support to ANGAP (eg WWF)

NGO's and other institutions - frequently in partnership with ANGAP in the peripheral zones

-5- Multiple Donors for One Protected Area

We have also learned that multiple donors also pose problems for coordination and management of development activities in a peripheral zone (eg ANAE, PACT/SAC, FID, Peace Corps, etc) Different groups frequently seem to compete for activities with village groups or the rare community organizations - each trying to "out-give" the next group There is a critical need to regionally or sub-regionally coordinate the activities of all such groups in areas so as to avoid such situations This will be one of the most difficult challenges for the program approach being proposed for the second environmental program donor support in Madagascar

5 0 Challenges to ANGAP's Future

In spite of the significant institutional progress made by ANGAP in evolving towards Madagascar's first national parks and reserves institution, and its ability to learn from its experience with ICDP activities during the past four years a number of significant challenges lay ahead which will determine the success or failure of developing a sustainable conservation approach for the country's parks and reserves and remaining unique biodiversity

5 1 Delegation of Authority

True delegation of authority within ANGAP, from top to bottom, must take place Decision frameworks must be developed so that clear obligations and freedom to make decisions at each level are clear and respected Top down micro-management, and over-riding of delegated decision making responsibilities of those lower down in the hierarchy, remains a serious problem and must be strongly resisted Park Managers must be given real authority to manage all aspects of their parks and reserves, without central interference Monitoring and evaluation should be based upon agreed upon annual objectives within the organization Key senior ANGAP personnel, having come out of the public sector will need to overcome their inherent desire to resist delegation of such authority *Failure in this area alone will result in institutional failure*

5.2 Loss of Focus

Success draws attention. ANGAP seeks to focus its attention on its mission statement - to manage Madagascar's parks and reserves. There will be a desire by both donors and government alike to place upon ANGAP duties which could well distract it from its primary mission - resulting in loss of focus and eventual institutional decline. Rather than doing this, donors and government might consider creating other institutions of this kind which can develop expertise in new areas.

5.3 A Tempting Take-over Target

If ANGAP moves towards sustainability this means ANGAP is actually making money and managing it in a fiscally responsible manner. This will also attract attention in a financially poor environment. ANGAP must be protected at the highest levels of government (National Assembly) by recognition of its mission statement and its institutional status as a not-for-profit association (hybrid NGO). Again, rather than moving to control this source of income, government should consider creating similar institutions capable of removing some of the financial burden of central government in various other areas of management. This would be consistent with national policy for decentralization and empowerment of other sectors of the economy.

5.4 Creating Partnerships

Donors will be channeling significant funding into the "development" sector over the next years and ANGAP will be tempted to obtain a piece of the action. ANGAP's challenge will be to remain focused on park and reserve management and ecotourism development, and develop partnership and advocate relationships with various government, NGO groups, and peripheral zone groups capable of assisting local populations in socio-economic development activities. In the same sense, ANGAP must understand the donor group's programmatic approach to development during the PE-2, and establish links which have cross-cutting advantages for ANGAP to other sectors. For instance, development of improved roads in the southern part of the country (eg. 50 km road to the Andringitra protected area, or to Ranomafana National Park) would not only strongly influence the ecotourism market, but also provide an economic stimulus to the region.

5.5 Technical Assistance

Associated with partnerships is ANGAP's need to recognize the value of technical assistance. There is a view, common to civil servants of government bureaucracies worldwide, that use of technical assistance to advise and improve *their* work, to the extent of even following directly technical advice given, somehow is a negative statement of their own personal worth, their technical competence. In the private sector, of course, technical advice is highly valued and frequently closely followed. ANGAP, though not a government bureaucracy, yet includes personnel from public institutions with this tendency. There is also a misunderstanding about how and why donors provide technical assistance. One frequently hears the comment "if we didn't have this expensive technical assistance support, we would have so much more money to use for other things." This is of course not true at all. Technical assistance is a form of "grant gift" to an institution to raise standards of performance and quality. Conceptual changes will need to take place within ANGAP on this subject if it is to actually develop the partnerships needed to become a "center of excellence."

USAID Madagascar has been the principal donor responsible for the institutional development of ANGAP and Tropical Research & Development, Inc., the principal operator responsible for successfully leading ANGAP to its current national parks service mission.²² USAID has consistently shown more interest in supporting long-term NGO technical assistance to field ICDPs (partners, but not answerable to ANGAP) - reaching at times over 20 expatriate advisors. This preference is continuing into the transition period beyond January 1, 1997, while effectively abandoning the principal national institution which is assuming the greater burden over the coming years. This is an extremely serious and urgent issue.¹

ANGAP will not be receiving the technical assistance it specifically requested or urgently needs at the central, park system level during a key, pivotal period of its development over at least the next 18 months (January 1997 - June 1998), during the so-called transition period between EP-1 and EP-2. USAID Madagascar, without a technical end-of-program needs evaluation, has determined that it can no longer provide more than one long-term advisor to ANGAP during this time. Yet this young and untried institution is about to move into an extremely difficult transition period in which it will be taking over direct (e.g. SAVEM ICDPs) or indirect management of a network of 44 parks and reserves, receive greatly increased donor funding for its programs and rapidly expand its staffing levels. Without increased long-term technical support, ANGAP risks serious problems and perhaps institutional collapse, or at best, loss of its 'mark of excellence and institutional vigor' earned during EP-1.²³ Donors should be challenged to realize that institutional sustainability is not achieved in a few short years. Major funding "gaps" can result in

serious harm to significant accomplishments and costly investments already made

5 6 ANGAP's Board of Directors

The ANGAP Board is very weak and this represents a great danger for the future of the association. As ANGAP seeks, in the coming months, to increase private sector representation on its governing board, and reducing public sector/political representation, it will need to look for a much stronger and more active board. Powerful and wealthy private individuals of national importance with a commitment to the environment must be drawn to the board. These people must be active nationally and internationally in seeking funding for the institution in using their influence in changing national policies which hinder ANGAP's effectiveness. This is important if ANGAP as an independent association is to be kept on track in its commitment to conservation first and foremost on behalf of the 'people of Madagascar'. It needs to be actively engaged in setting policy for the protected area program consistent with the objectives of the State, and supervising its delegated chief executive, the Director General, in implementation of the program.

The Board members must be named individuals - not representatives of organizations. The Board must become much more active in oversight of ANGAP itself, not with executive functions, but with strong policy oversight control.

5 7 Financial Sustainability of Parks Network

An often neglected issue in seeking sustainable management of biodiversity is financial sustainability of the parks network itself. A major challenge for ANGAP will be to approach management of its network of parks and reserves in a business sense - sound business planning which includes thoughtful timing of infrastructure investment and attention to depreciation costs. It will be a challenge for ANGAP to move away from a program almost completely dependent on foreign donor support to one in which assets are carefully managed, capital expenses are kept within the organization's ability to meet maintenance and depreciation costs, and control of the quality and quantity of personnel hired.

Associated with this issue is fiscal responsibility. ANGAP has not yet made the commitment to complete transparency in its accounting systems. While it does have the tools to do so, the management will to become completely professional in this area is still lacking. Until this is achieved, ANGAP will have difficulty in overcoming the inherent suspicion of all those who might like to support biodiversity conservation in Madagascar through an organization like ANGAP - but won't - until accounting is completely transparent and information widely and freely shared in this domain.

6 0 **Conclusions**

ANGAP is in a position of providing other Malagasy institutions a model of how to operate in a new manner, where quality and service is important, where business plans and sound financial feasibility studies are the norm. We are firmly convinced that activities planned for Madagascar national parks and reserves will serve as motors for the economic development of some of the poorest regions of the country - something of central importance to Madagascar's politics of regional decentralization and stimulation.

'National parks are integral parts of the assets, economy, and attractions of the region's in which they are situated. Where these national parks provide income, the region clearly should benefit financially and economically. Formulae for the flow-through of such benefits will be negotiated (revenue sharing). A common vision of a system of national parks should be developed that will make an important contribution to nation building while earning foreign exchange, providing jobs, and creating business opportunities for neighboring communities" (Robinson, 1995: 3).

The experience of the past five years has strengthened the conviction that the socio-economic interests of the people living around parks and reserves (and sometimes within) must be adequately addressed if the conservation goal is to be attained. The people and the nation itself must truly see their economic well-being linked to the continuity of these areas of wilderness and biodiversity. Such "linkage" has only begun to be realized. However, it is equally evident that a focused, professional parks institution is also required if Madagascar's protected areas are to be conserved and managed as "places of preservation, education, recreation, and contribute to the development of peripheral zone communities and to regional and national economies" into the next century and beyond (from ANGAP's mission statement).

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NOTES

¹ Parastatals are considered essentially the same as direct federally run systems. The experience of parastatal management is mixed and not conclusively recommended as an approach to park management (IRG 1992:51)

² Unfortunately a parastatal, the National Resource and Conservation Association, with oversight authority, is currently trying to take over direct management.

³ Mr. Botha, Director of Administration, National Parks Board, during week long support visit to ANGAP, August 28 - September 1, 1995.

⁴ Dr. G. A. Robinson, Executive Director, National Parks Board, during ANGAP support visit to Madagascar, December 4-7, 1994.

Created in 1898, Kruger National Park is South Africa's oldest national park and Africa's largest (2 million hectares). It was created following an inspiring visit by a South African leader to Yellowstone National Park. Managed by the National Parks Board, Kruger, as well as many of South Africa's other national parks, is a world leader in advanced environmental management techniques and policies.

Mission 1: The center is charged with the protection and the management of the network of protected areas (land, shoreline, marine). Mission 2: The responsibilities of the center extend to include rural development activities within the peripheral zones of the protected areas. Mission 3: The center will have for its mission to open protected areas to ecological tourism to encourage the benefits of tourist activities for the local populations (employment, sales of products) within the limits compatible for biodiversity protection, and Mission 4: The center must promote scientific monitoring of the biodiversity situation within the protected areas (Louis Berger, 1989:15-18).

⁶ SAVEM Project Document, 1991, pp. 1-2.

⁷ SAVEM Project Document, 1991, p. 2.

⁸ According to the USAID SAVEM project document, ANGAP's coordination role "may be expanded to management of the protected areas based on demonstrated capabilities of ANGAP." ANGAP's possible future capacity to manage protected areas directly will be reviewed during a joint AID/GRM midterm evaluation of the SAVEM project during FY 1994. (SAVEM project document, 1990, Section III C.1). The mid-term evaluation (June 1994) confirmed the excellent institutional progress of ANGAP. The statement was made that ANGAP was following "its natural evolution towards its self-defined long-term vision of becoming Madagascar's national parks service."

⁹ Efforts are underway to decrease the number of public officials to four and increase the role played by regional and influential private sector individuals.

¹⁰ Association Nationale pour la Gestion des Aires Protégées (ANGAP). '*Gestion*' in French refers to direct management.

¹¹ Entrance fees for adults and children good for 3 days.

¹² This is valid for 15 days per site and represents the permit to enter the reserve, not the permit to film.

¹³ The currently most highly authorized decree by the Government of Madagascar, concerning ANGAP, through signature of the Prime Minister and four Ministers, of April 12, 1991 (decree No. 91-593) clearly speaks of ANGAP management (*gestion*) duties (see above).

¹⁴ It is true that many ICDPs had only actually begun field implementation of many of their activities starting early 1994. While it is not realistic to expect much impact in terms of changed behavior from program activities, there are many other lessons which can be drawn from the past two years' experience.

¹⁵ The term 'buffer zone' can cause confusion. As used here, it differs from the UNESCO Man and the Biosphere Program where it was first developed. UNESCO's buffer zones are areas immediately adjacent to a protected area that have limitations and controls on use that are intermediate to those of the protected area and the open use areas beyond the buffer. It was originally intended to be much more restrictive in uses allowed (e.g. no permanent habitations) than in practice has proven feasible (IRG 1992:48). UNESCO's concept of buffer zone is more closely related to what ANGAP refers to as the peripheral zone. A reason why the UNESCO buffer zone concept finally failed to disallow human habitation was because it is located outside the jurisdiction of the park. Defined within the park, restrictive uses by the peripheral zone communities is more easily realized.

¹⁶ International Union for Conservation of Nature and Natural Resources.

17 During the Madagascar Environmental Action Program for the next five years a regional partnership approach will be taken without a national coordinating agency

18 Many of the most successful ICDP activities in parks over the past years were activities of the kind discussed here. The lessons learned from these case studies may be reviewed in "Hypothesis Testing: Do Targeted Development Activities Reduce Pressures on Parks/Reserves Through Changed Human Behavior?" (Swanson 1996b)

19 The only danger is that when compared to the donor's non-sustainable funds being pumped into a peripheral zone during an ICD project's life, the park entrance fee money is very small. When the "big money" is gone, people may not be content with the limited amount of funds coming from the entrance fees and may hold the park service responsible for the withdrawal of the donor's funding.

20 An example of this is the Mutuelle d'Epargne et de Credit (MEC) of the Zahamena Special Reserve (cf. Swanson 1996:58-63).

21 One response to this statement is that the program has evolved and that no-one actually anticipated that such operators should have been more involved in the actual development of the parks and reserves themselves - that the emphasis was more towards "development." If so, then one might argue the initial design for ICDPs (having to do specifically with national parks and reserves) was flawed for lack of real park professionals at the design stage, or that ICDPs are mis-named. These were "development for conservation" projects, not "integrated conservation and development projects."

22 Two TR&D long-term advisors initially helped ANGAP begin to organize itself institutionally (Roy Hagen - Natural Resources and Peter Robinson - Financial Planning) (1992-September 1994). Two subsequent advisors, Dr. Richard Swanson (institutional development specialist, monitoring & evaluation advisor) and Jean-Michel Dufils (GIS information system management), continued this support between January 1994 and December 1996. A fifth advisor, Roger Collinson (parks manager), joined the latter team in 1996.

³ What is happening to ANGAP as a result of refocus of USAID interests during EP-2 is also happening for the development activities initiated in the peripheral zones of SAVEM ICDPs. In both cases USAID will be seen as walking away from programs it has committed itself to over the past five years. A lesson learned elsewhere but not applied.